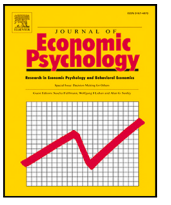
Journal of Economic Psychology 114 (2026) 102893

Contents lists available at ScienceDirect

Journal of Economic Psychology

journal homepage: www.elsevier.com/locate/joep



How group deliberation shapes distributional preferences: An experimental analysis☆

João V. Ferreira [a,*], Erik Schokkaert [b], Benoît Tarroux [c]

[a] University of Southampton, Building 58, Highfield Campus, SO17 1BJ, Southampton, UK
[b] Department of Economics, KU Leuven, Naamsestraat 69, B-3000 Leuven, Belgium
[c] University Lumière Lyon 2 and GATE Lyon-Saint-Etienne, 35, Rue Raulin, 69007 Lyon, France

ARTICLE INFO

Dataset link: https://doi.org/10.5281/zenodo.18805742

Keywords:
Group deliberation
Distributional preferences
Social identity
Persuasion
Social comparison

ABSTRACT

This paper investigates how group deliberation changes individual distributional preferences. We experimentally assess the relative contribution of persuasion, social identity, and social comparison to shifts in preferences following deliberation. In a controlled setting, participants engaged in ten minutes of non-binding written group deliberation about distributional choices. Post-deliberation preferences became significantly more egalitarian than pre-deliberation ones. This within-subject preference shift is supported by a between-subject comparison showing that group deliberation has a larger egalitarian effect than individual deliberation. What explains this egalitarian shift? Our findings suggest that social identity formation is the primary but not unique driver of the change in preferences. Social identity appears to largely explain the pronounced egalitarian shift among participants who lose from equality, while persuasion and social comparison seem to account for the preference changes among those whose material payoffs are unaffected by the distributive outcome. These findings have important implications for the elicitation of distributional preferences and for the design of communicative institutions that precede collective decision-making.

1. Introduction

People's preferences about the distribution of resources can explain popular support for various tax schemes and be an important consideration for the design of redistributive policies. Popular support for redistribution is also thought to be necessary to sustain socially-oriented institutions such as the ones that make up the welfare state. An extensive literature has therefore emerged around the elicitation of distributional preferences, using both incentivized and survey-based experiments (see Alesina and Giuliano 2011, Mengel and Weidenholzer 2022, Schokkaert and Tarroux 2021 for reviews).

☆ **Acknowledgments** We are grateful to the Editor in charge and two anonymous referees for their valuable comments and suggestions that greatly improved the paper. We also thank Larbi Alaoui, Federica Alberti, Jordi Brandts, Alexander Cappelen, Francesco Cerigioni, Laurent Denant-Boemont, Nicolas Gravel, Olivier L'Haridon, Fabrice Le Lec, Stéphane Lemaire, David Masclet, Rosemarie Nagel, Antonio Penta, Rohini Somanathan, Joël van der Weele, and the seminar and workshop participants at Pompeu Fabra, Portsmouth, Lille, Marseille, Besançon, Saint-Etienne, Keio, Southampton, Lyon, ASFEE 2022, IMEBESS 2023, and ESA European Meeting 2023 for valuable discussions, comments and suggestions. We are also grateful to Quentin Thévenet for programming the experiment, Baptiste Slomiany for replicating the statistical analysis, and to Cecil Coskun, Oumayma Ben Khlifa, Thomas Cadet and Lamine N'Diaye for excellent research assistance. This paper forms part of the research project "ValFree" (The Value of Choice, grant No. ANR-16-CE41-0002-01) of the French National Agency for Research whose financial support is gratefully acknowledged. The experiment was approved by the GATE-LAB Ethical Board.

* Corresponding author.
E-mail addresses: j.ferreira@soton.ac.uk (J.V. Ferreira), erik.schokkaert@kuleuven.be (E. Schokkaert), benoit.tarroux@univ-lyon2.fr (B. Tarroux).

https://doi.org/10.1016/j.joep.2026.102893
Received 31 March 2025; Received in revised form 9 December 2025; Accepted 17 February 2026
Available online 18 February 2026

Although most of this literature implicitly assumes that distributional preferences are a "fixed" individual trait, most economic and political decisions with distributional consequences are preceded by a stage of group deliberation that may affect these preferences. For example, in most political systems there is a stage of public deliberation before the voting process takes place. The same holds for teams, committees, and other groups that take decisions with distributional consequences. This is particularly relevant since post-deliberation preferences are the ones that usually feed into economic and political decision-making. This means that the institutional settings that frame our social interactions may support certain preferences over others, and a better insight into how group deliberation affects preferences is necessary to understand the processes and outcomes of economic and political decision-making.

In this paper, we study how group deliberation shapes individual distributional preferences. We use a lab experiment to assess the relative weight of three of the most cited mechanisms to explain social influence in deliberative processes: persuasion, social identity, and social comparison (outlined in Section 2). At the beginning of the experiment, subjects are randomly assigned to a position in groups of 5 members, from "rich" to "poor", and retain this position throughout the experiment. Their task is to choose between 7 monetary allocations that involve a trade-off between efficiency (total payoff) and equality (as, e.g., in Engelmann and Strobel 2004). This choice is individual and private (as opposed to a group choice). Increasing equality is monetarily costly for the two "rich" members, has no effect on the "median" (impartial) member, and is aligned with (monetary) self-interest for the two "poor" members. In the *group deliberation treatment*, subjects face this choice before (period 1) and after (period 2) 10 min of non-binding written group deliberation (i.e., *cheap talk* via a written chat), and face again the same choice with a different group in period 3. In the *individual deliberation treatment*, after period 1, subjects are informed about their group members' decisions in that period, and then spend 10 min writing a short essay on reasons for and against the different allocations. After these 10 min, they face again the same choice in period 2 with their original group and in period 3 with a different group. As we explain below, this simple design allows us to disentangle the effects of persuasion, social identity, and social comparison.

We find that subjects' post-deliberation distributional preferences are significantly more egalitarian than their pre-deliberation ones. This shift is large. For example, the proportion of subjects preferring the most unequal allocation decreases from 40% before group deliberation to 20% afterward, while those preferring the most egalitarian allocation increase from 46% to 65%. The change is statistically significant for both rich and median members, and is more pronounced among the rich. Poor members — who always benefit from equality — are, unsurprisingly, overwhelmingly egalitarian from the outset and show little change after deliberation. This substantial within-subject preference shift is supported by a between-subject comparison showing that group deliberation has a much stronger egalitarian effect than individual deliberation.

What explains this egalitarian shift? Our analysis suggests that social identity is the main, though not unique, driver behind the preference change. Its influence is particularly strong among rich members, for whom it is monetarily costly to choose more egalitarian allocations. By contrast, social identity has no explanatory power for the behavior of median (impartial) members; for them, persuasion and social comparison appear to jointly account for the observed egalitarian shift. The relevance of persuasion in our setting is further supported by the analysis of the chat content, which reveals a clear relationship between the nature of discussions and subsequent preference change. Below, we also discuss potential limitations and alternative explanations for our findings. Overall, we believe that this decomposition — the main innovation of our paper — is suggestive of behavioral regularities and social influence mechanisms in communicative processes that deserve further study.

1.1. Relation to the literature

Our paper makes several contributions to the literature. First, it extends the experimental literature eliciting distributional preferences (e.g., Cappelen et al. 2007, Konow 2000, 2010, 2013; Balafoutas et al. 2013, Kamas and Preston 2012, 2014; Almås et al. 2010, Cetre et al. 2019, Cettolin and Riedl 2017, Durante et al. 2014, Fehr et al. 2020, Kuziemko et al. 2015, Schulz et al. 2014, Sharma 2015, 2020; Andreoli and Olivera 2020, Fisman et al. 2020, Konow et al. 2020, 2021; Fehr et al. 2022, Ferreira et al. 2025, 2026). We show in a controlled environment that group deliberation changes individual distributional preferences (within-subject), making them more egalitarian, and we use a between-subject comparison to provides evidence against alternative explanations such as order effects. While it is well established that non-binding communication ("cheap talk") can shift decisions away from purely self-interested choices in social dilemma games (e.g., Andreoni and Rao 2011, Bartling et al. 2024, Bornstein et al. 1989, Ellingsen and Johannesson 2005, Ellman and Pezanis-Christou 2010, Sulkin and Simon 2001, Ueshima et al. 2021, Yamamori et al. 2008, Zultan 2012), the within- and between-subject effects of group deliberation on the *individual* distributional preferences of a group of stakeholders had not been studied. Our paper is therefore related to but significantly different from the large experimental literature comparing individual and team decision-making (see Charness and Sutter 2012, Sutter et al. 2020 for reviews). Our results suggest that individual distributional preferences are not "fixed" and that, if our findings generalize, group deliberation could foster the social solidarity needed to sustain redistributive institutions.

Second, our study contributes to the literature investigating the underlying mechanisms of social influence in deliberative processes (e.g., Brady and Wu 2010, Cason and Mui 1997, Chen and Chen 2011, Chen et al. 2010, Chen and Li 2009, Frey and Meier 2004, Luhan et al. 2009, Penczynski 2016). To the best of our knowledge, Cason and Mui (1997) and Luhan et al. (2009) are the only empirical studies that test the relative explanatory power of two of the mechanisms we consider (persuasion and social comparison). In our experimental setting, social identity (which they do not take into consideration) appears to explain most of the preference shift of rich members, while persuasion and social comparison appear to jointly explain the shift of median (impartial) members. This decomposition is important for the design of deliberative institutions. For example, if social identity were the only explanation for the effect of group deliberation, then deliberating with others would not bring additional value when compared with

other activities that are similarly effective at enhancing social identity (e.g., meeting with others for a fun event); but if persuasion also plays a role in shaping preferences, as our results suggest, on-topic group deliberation has a relevant independent effect on (distributional) preferences.

Finally, our paper contributes to the large experimental literature in economics examining how communication shapes preferences and behavior (e.g., Agranov and Tergiman 2014, Ambrus et al. 2015, Andreoni and Rao 2011, Brandts et al. 2022, 2015, Crawford 1998, Goeree and Yariv 2011, Kittel et al. 2014, Pronin and Woon 2022, Valley et al. 2002). Among these studies, Ambrus et al. (2015) is the one most closely related to ours. Their main goal is to identify which individuals influence group decisions in both gift-exchange and lottery settings involving face-to-face deliberation. In the gift-exchange case, they are able to examine the joint effect of deliberation *and* collective decision-making on individual preferences. Their findings align with ours in highlighting the importance of within-group social identity as a key mechanism of social influence during group deliberation. Taken together, our studies complement one another and contribute to the understanding of how communication affects the formation of preferences.

The remainder of the paper is organized as follows. Section 2 outlines the theoretical frameworks we consider in our analysis to explain the shifts in preferences following deliberation. Section 3 describes the experimental design, while Section 4 details the measurement of key variables and presents our hypotheses. Section 5 reports the main results, and Section 6 discusses their interpretation along with potential alternative explanations. Section 7 concludes.

2. Conceptual background

There is an extensive literature on social influence in deliberative processes, and researchers have proposed various explanations for preference change. In this section, we briefly outline three dominant theories in social psychology that capture mechanisms also relevant to economics: Persuasive Argument Theory (PAT), Social Comparison Theory (SCT), and Social Identity Theory (SIT). Other prominent theories in economics — such as conformity, social pressure, reputation concerns, and the role of promises or threats — are discussed in Section 6.

According to PAT (e.g., Brown 1974, Burnstein et al. 1973, 1986), deliberation primarily functions as a medium for information and argument exchange. This theory rests on the intuitive idea that individual preferences are shaped by the *most prevalent* and *convincing* arguments within a discussion. In our setting, we conjectured that pro-egalitarian arguments would dominate the conversation and thus foster an egalitarian shift: an auxiliary hypothesis that, as shown below, is supported by our chat content analysis. This predominance may be partly explained by the fact that participants were randomly assigned to their positions, making pro-egalitarian arguments easier to justify than those favoring non-egalitarian allocations. PAT's explanation for preference change is therefore rooted in the exchange of arguments that occurs during group deliberation.[1] In contrast, the next two theories explain social influence through mechanisms independent of argument exchange.

According to SCT (e.g., Pruitt 1971a, 1971b; Myers and Lamn 1976), individuals want to perceive themselves and be viewed by others in a socially desirable way (see Bonnet and Zeckhauser 2004, Chen et al. 2010, Frey and Meier 2004 for economic experiments exploring social comparison). SCT predicts that when individuals observe how others behave, they adjust their behavior toward what they perceive as the most "socially desirable" or "admirable" action. This assessment is context-dependent. Drawing on previous literature, we hypothesized that the egalitarian allocation would be perceived as the most socially desirable action in our setting. While we cannot test this auxiliary hypothesis directly, evidence from dictator games supports it: there is substantial social agreement that equal payoffs are very socially appropriate, whereas dictators maximizing their own payoffs is considered the most socially inappropriate action (Krupka and Weber 2013, p. 506). This evidence suggests that egalitarian allocations are viewed as socially desirable when relative positions result from brute luck, as in our experiment. We therefore expected social comparison to contribute to an egalitarian shift.

Importantly, SCT predicts that the "mere exposure to the preferences of others is the necessary and sufficient condition for a shift [in preferences/choices]" (Myers and Lamn 1976, p. 613; see also Cason and Mui 1997, fn. 4). Burnstein and Vinokur (1975) further observed that exposure to others' choices produces a change in preferences *only if* subjects write down arguments about the decision at hand. It follows that according to SCT, providing information about others' initial behavior followed by a phase of individual deliberation is *sufficient* to change preferences. As we discuss below, during group deliberation people can gather other information and inputs to compare themselves to others that satisfy this sufficient condition (e.g., about intended behavior in period 2) . We therefore use the term "social comparison" to mean individuals comparing themselves to information about others' behavior or intended behavior that is (theoretically) *sufficient* to change preferences in a socially desirable way.

Finally, SIT posits that group members may modify their self-identity through emotional attachment to the group (e.g., Tajfel and Turner 1979). Chen and Li (2009) use communication via a written chat to enhance group identity (p. 437), and find that it increases self-reported group attachment and that it has a moderate effect on behavior (pp. 450–2). According to SIT, social influence during group deliberation arises through this emotional attachment to the deliberating group. Psychological ties may be formed in pairs or other sub-groups, and this remains consistent with SIT so long as such ties strengthen attachment to the deliberating group. Moreover, group discussion may generate a kind of "psychological contract" among participants (Frey & Bohnet, 1997). We therefore use "social identity" broadly to refer to the psychological bonds that form through communication. SIT predicts that these bonds lead individuals to minimize in-group inequalities, and empirical literature strongly suggests that social identity fosters welfare-enhancing and pro-distributional social preferences (see Costa-Font and Cowell 2015 for a review). We therefore expected social identity to also contribute to an egalitarian shift.

[1] In our experiment, the strategic revelation or withholding of private information to influence others' beliefs is not central (cf. Crawford and Sobel 1982, Glazer and Rubinstein 2004, Kamenica and Gentzkow 2011).

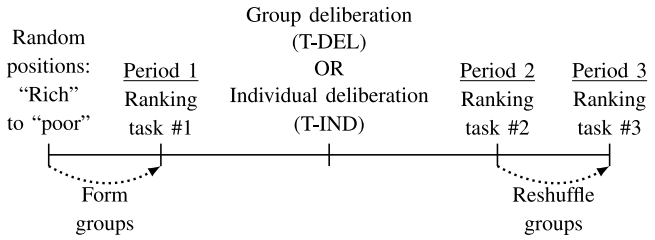


Fig. 1. Timeline of the experiment.

3. Experimental design

In this section, we present the main elements of our experimental design: (i) timeline and subjects' decisions, (ii) treatments, (iii) additional measures, and (iv) experimental procedures. The written instructions and screens presented to subjects are shown in Appendix H and Appendix J, respectively (all appendices are available online).

3.1. Timeline and subjects' decisions

Our experimental design replicates a situation in which a group of individuals has to distribute a total payoff among them. The timeline of the experiment is summarized in Fig. 1. The experiment proceeds as follows. First, subjects learn about the potential payoff allocations and their position in the group. They are randomly assigned to a position from "rich" to "poor" mimicking a simple "brute luck" situation in which payoffs are the result of factors beyond individual control (Dworkin, 2000). They are also informed that their position is fixed throughout the experiment. Next, we elicit subjects' individual distributional (revealed) preferences in three consecutive periods in which they rank seven payoff allocations for their group. Between periods 1 and 2, there is a phase of group or individual deliberation. We describe these between-subjects treatments below. Then, between periods 2 and 3, we reshuffle the groups maintaining the subjects' relative positions in the groups using a stranger matching protocol.

Payoff allocations. In each period, subjects rank the seven allocations of money displayed in Table 1. As the table illustrates, there is a trade-off between equality and efficiency (measured as total payoff). Allocation 1 (a1) is the most unequal and most efficient, whereas allocation 7 (a7) is the most equal but least efficient. Equality increases and efficiency decreases monotonically from allocation 1 to 7. With respect to monetary self-interest, members A and B benefit most from allocation 1 and least from allocation 7, while members D and E benefit most from allocation 7 and least from allocation 1. This creates a conflict of interest between the "rich", who benefit from efficiency and inequality, and the "poor", who benefit from higher equality and lower efficiency. Member C occupies a "median" impartial position, as her monetary payoff is unaffected by the choice of allocation. Note that the differences between allocations are substantial. For instance, moving from allocation 1 to allocation 7 results in a loss of €15.5 for member A and a gain of €9.5 for member E. To help subjects identify trade-offs, the allocations on the screen are always presented in the order shown in Table 1, with total payoffs displayed. For similar reasons, members are always listed from richest (top row) to poorest (bottom row), and each subject's own position is highlighted by the label "me" in their row. The labels "rich", "median", and "poor" were not shown to the subjects.

Ranking tasks. At each period, subjects are asked to rank the seven allocations from most preferred to least preferred and no indifferences are allowed. This choice is individual and private (as opposed to a group choice). This ranking task is completed twice in two different positions:

1. **Stochastic dictator ranking task:** Subjects rank the seven allocations in the case that their individual choice is randomly selected to determine the group allocation. The allocation they rank 1st has a 38% chance of being chosen, the 2nd 24%, the 3rd 17%, the 4th 11%, the 5th 7%, the 6th 3%, and the 7th 0%.
2. **Borda voting ranking task:** Subjects rank the seven allocations in the case that the group allocation is determined by a Borda vote. Under this rule, the allocation they rank 1st receives 6 points, the 2nd 5 points, and so on, with the 7th receiving 0 points. The allocation with the highest total points across all group members is then selected.

Two features of this design choice are worth explaining. First, the stochastic dictator mechanism gives subjects a monetary incentive to reveal an honest complete ranking of the 7 allocations. Since this ranking is kept private and subjects are effectively dictators in this position, we interpret this ranking as subjects' sincere preferences over alternatives. This ranking is therefore appropriate to study changes in individual sincere distributional preferences, the focus of this paper. Second, we elicit preferences via a Borda vote to test if decisions taken in the dictator position are likely to hold in a voting decision setting. This is a relevant secondary question since instances of group deliberation with economic and political consequences are often followed by a voting stage. We return to this question in Section 6.

Incentives. At the end of the experiment, one of the three periods is randomly selected for payment. Then, for each group, one of the two decisions in that period is randomly selected for payment, with equal probabilities for the stochastic dictator and the Borda vote. If the stochastic dictator is randomly chosen for payment, each member has a 1/5 chance of being the decision-maker whose

Table 1
Allocations (in euros).

		a1	a2	a3	a4	a5	a6	a7
"Rich"	Member A	26.5	24	21.5	19	16	14	11
"Rich"	Member B	16	15	14	13.5	13	12	11
"Median"	Member C	11	11	11	11	11	11	11
"Poor"	Member D	5	6	7	8	9	10	11
"Poor"	Member E	1.5	3	4.5	6	8	9.5	11
	Total payoff	60	59	58	57.5	57	56.5	55

choice determines the paid allocation, according to the probabilities described above. If the Borda vote is selected, the allocation with the highest total points is selected. In the event of a tie at the top of the Borda ranking, the winning allocation is the one most frequently ranked first among the tied allocations.

3.2. Treatments

Between periods 1 and 2, there is a phase of group deliberation (T-DEL) or individual deliberation (T-IND). In the initial instructions, we announced to subjects that they would be making decisions in three independent periods, but we only informed subjects about the group/individual deliberation phase after period 1 was finished. This information flow was implemented to avoid subjects forming expectations that could affect their choices in period 1.

- **T-DEL (Group deliberation treatment):** Subjects have 10 min of non-binding written communication to discuss the allocations.

T-DEL allows us to study within-subject changes of individual distributional preferences following group deliberation. A few features of this treatment are worth noting. First, the communication was public (i.e., there was no private communication between subgroups of members as, e.g., in Goeree and Yariv 2011 or Brandts et al. 2022) and the members were identifiable by their position in the group (A to E, as opposed to being fully anonymous as, e.g., in Ahn et al. 2018, Heap et al. 2020). Second, subjects were encouraged to communicate with each other, but there were no restrictions on the content of the communication (except for personally identifiable information). The exact wording that appeared on the screen was: "*Before making your choices in the second period, all group members will have the opportunity to communicate with each other via a chat.*" Third, the discussion was done via a written chat (as opposed to face-to-face as, e.g., in Ambrus et al. 2015, Ueshima et al. 2021) and the decisions were made privately (as opposed to jointly as in Ueshima et al. 2021 or individually but publicly known as, e.g., in Cason and Mui 1997). Therefore, communication is not binding in our setting and corresponds to cheap talk in a "chat room".

- **T-IND (Individual deliberation treatment):** Subjects receive information about the decisions that their group members took in period 1 and have 10 min to write a short essay on reasons for and against the different allocations. Specifically, they are informed of the number of group members who ranked each allocation as their preferred option in the stochastic dictator task of period 1, without identifying information about individual positions (see Krupka and Weber 2009 for a similar procedure).

According to SCT, including information about the initial decisions of others followed by individual deliberation is *sufficient* for social comparison to be at play (see Section 2). T-IND is designed to "isolate" the effect of social comparison since persuasion and social identity, as defined in PAT and SIT (Section 2), demand interaction between people and cannot be at play in this treatment. As explained below (Section 4.2), comparing the effects of T-DEL and T-IND in period 3 also allows us to assess the role of persuasion. This relies on the assumption that T-DEL and T-IND induce similar social comparison effects as defined in SCT, i.e., that both treatments are *sufficient* to bring about social comparison to others *based on information about others' behavior and/or intended behavior*. SCT claims this to be the case for T-IND. We expected that sufficient conditions for social comparison would hold in T-DEL because subjects would learn, via communication, about behavior in period 1 and/or intended behavior for period 2. Chat content analysis shows that this auxiliary assumption holds for all groups in our experiment. An alternative design would have been to inform participants about the initial decisions of others in T-DEL. We chose *not* to do so because we expected the previous auxiliary assumption to hold and because our design allows us to investigate within-subject preference shifts without introducing an exogenous element that is not common in deliberative settings (exogenous information about past choices). We further discuss the assumptions underlying our decomposition results in Section 6.

Second, we employ T-IND to investigate whether the observed within-subject preference shifts are driven by order effects, such as a desire for consistency, fatigue, or other factors related to the passage of time. If, as our data suggests, both treatments provide *sufficient* conditions for social comparison, comparing the effects of T-DEL and T-IND allows us to isolate the *causal effect of group deliberation, excluding the influence of social comparison*. Consequently, this between-subject comparison provides a *lower bound* for the causal effect of group deliberation on individual distributional preferences. If, as we find, T-DEL induces a statistically significantly larger egalitarian shift than T-IND, we can infer that group deliberation has a causal egalitarian effect on individual distributional preferences *even when* the effect of social comparison is excluded. Then, under the plausible assumption that order effects exert similar influence in both T-DEL and T-IND, this suggests that our within-subject results are not artifacts of order effects stemming

from a desire for consistency, fatigue, or other time-related factors. Additionally, order effects driven by a desire for consistency or the *mere choice effect*, if present, would typically promote stability in preferences over time (see Alós-Ferrer and Granic 2023). This contrasts with our findings, which reveal a large shift in preferences between periods. Alternative explanations based on order effects, such as fatigue, would also struggle to account for the non-monotonic pattern observed consistently across individuals whose preferences become more egalitarian from period 1 to 2, and then less egalitarian from period 2 to 3.

Finally, we note that the exact wording that appeared on the screen of T-IND was: "*Before making their choices in the second period, all members of the group will have the opportunity to write an essay in which they can give their opinion on the different distributions and how to classify them. The aim is to help you think through the various possible points of view.*" This framing was provided following the hypothesis that social comparison is more effective when people are stimulated to think about arguments that others might have had for their choices (see Myers and Lamn 1976, p. 615). We do not exclude the possibility that this framing (which differs from T-DEL) may impact behavior. Note, however, that this should reinforce that a comparison between T-DEL and T-IND is a lower bound of the group deliberation effect. Therefore, the effect we attribute to T-IND includes the effect of the information about others, individual deliberation, *and* the effect of this framing.

3.3. Additional measures

We recorded the chat communication in T-DEL, which we analyze to provide further support to some of our assumptions and results. Before the lab session, we also gathered information on personality traits via a short online survey using three influential psychometric questionnaires: Big Five (BFI-S), (social) Open mindedness and Machiavelism. Finally, at the end of T-DEL's lab sessions, we asked several questions about the perceived quality of the deliberation. Questions included subjects' perception of equality of speech, respect, the willingness of members to justify their views, and others' sincerity. We explore the relationship between personality traits, the perceived quality of deliberation, and preference shifts in Appendix G.

3.4. Procedures

The experimental sessions took place in the experimental lab of the University of Lyon (GATE-LAB), France, in 2019. The experiment and empirical analysis were not preregistered, as preregistration was not yet the norm for lab experiments at the time of data collection. The sample size was chosen to align with similar lab experiments on communication (e.g., Ambrus et al. 2015, Brandts et al. 2015, Luhan et al. 2009).

We conducted 10 sessions with a total of 240 participants, 175 in T-DEL and 65 in T-IND. Specifically, we conducted 7 sessions for T-DEL and 3 sessions for T-IND with 20, 25, or 30 participants in T-DEL and 20 or 25 participants in T-IND. Each session lasted approximately one hour, and participants received an average payment of €22, including a €7 show-up fee.

A large majority of our subject pool are students (90%) from economics and management (68%) and engineering (20%). Women represent 49% of subjects and the mean age was 23. We find no statistically significant difference across treatments on these observed characteristics and other socio-demographics such as perceived social category. Table A1 in Appendix A summarizes this information.

4. Measurement and hypotheses

4.1. Degree of egalitarianism

For our empirical analysis, we focus on what we call subjects' *degree of egalitarianism*. Let $\alpha^t_{i,d}$ denote the degree of egalitarianism of subject i at period $t \in \{1,2,3\}$ in treatment $d \in \{\text{T-DEL}, \text{T-IND}\}$. We shorten this notation to α^t_i when the treatment is irrelevant, and to α^t_d when referring to average treatment effects.

In our experimental setting, the allocations are designed such that if allocation k exhibits greater equality than allocation k', then k has a lower total payoff than k'. This represents the conventional trade-off between equality and efficiency. Rich, median, and poor members face distinct versions of this trade-off:

- **Rich members:** Monetary self-interest and equality are not aligned, while monetary self-interest and efficiency are. Hence, a higher degree of egalitarianism comes at a personal cost. For these subjects, $\alpha^2_i > \alpha^1_i$ can be interpreted as a strengthening (from period 1 to period 2) of egalitarian concerns at the expense of self-interest and efficiency.
- **Median members:** Monetary self-interest does not play a role. Changes in preferences are therefore driven by the trade-off between equality and efficiency. For these subjects, $\alpha^2_i > \alpha^1_i$ reflects a strengthening of egalitarian concerns at the expense of efficiency.
- **Poor members:** More equal (and thus less efficient) allocations are aligned with their self-interest. For these subjects, $\alpha^2_i > \alpha^1_i$ indicates a strengthening of egalitarian concerns and/or monetary self-interest at the expense of efficiency.

Therefore, our use of the term "degree of egalitarianism" should be seen as a convenient simplification.

Our main proxy for the degree of egalitarianism is the *Kemeny distance* (or K-distance), which takes into account subjects' complete ranking of allocations. It measures the distance between a subject's rankings and the "least egalitarian ranking" (i.e., the ranking in which the least egalitarian allocation is the preferred allocation, the second least egalitarian allocation is the second preferred, and so on). The Kemeny (1959) distance is a tractable measure with a straightforward interpretation and is among the

Table 2
Decomposition of the social influence mechanisms.

		T-DEL		T-IND	
	Period 1	Period 2	Period 3	Period 2	Period 3
Social identity	no	yes	no	no	no
Social comparison	no	yes	yes	yes	yes
Persuasion	no	yes	yes	no	no

Notes: The "yes" and "no" in the cells indicate if the mechanism can influence decisions in a given period and treatment.

most commonly used distance functions for comparing ordinal preferences. Formally, we consider the 7 × 7 matrix of subject's i pairwise comparisons of allocations k and k', $Q_i = (q_i^{kk'})$, where:

$$q_i^{kk'} = \begin{cases} 1 & \text{if } i \text{ prefers } k \text{ to } k' \\ -1 & \text{if } i \text{ prefers } k' \text{ to } k \end{cases}$$

The matrix $R = (r^{kk'})$ corresponding to the least egalitarian ranking is similarly defined. The Kemeny distance can then be written as follows:

$$d(Q_i, R) = \sum_k \sum_{k'} |q_i^{kk'} - r^{kk'}| \tag{1}$$

The larger the value of $d(Q_i, R)$, the greater the degree of egalitarianism exhibited by subject i. We normalize this distance measure so that the degree of egalitarianism ranges from 0 (no distance between the subject's ranking and the least egalitarian ranking) to 1 (maximum distance between the subject's ranking and the least egalitarian ranking).

In Appendix F.1, we show that our main results hold when the degree of egalitarianism is proxied by the subjects' *preferred allocation*. In Appendix F.2, we further demonstrate that the results are also robust when the degree of egalitarianism, α_i^t, is interpreted as a parameter in a utility function with social preferences.

4.2. Persuasion, social comparison, and social identity

The total within-subject change in the degree of egalitarianism following group deliberation, as estimated from the group deliberation treatment, can be written as follows:

$$\alpha_{TDEL}^2 - \alpha_{TDEL}^1 \tag{2}$$

Our experimental design, comprising two treatments and three periods, enables us to assess the relative explanatory power of persuasion, social identity, and social comparison in accounting for this total effect. Table 2 summarizes which of these mechanisms can influence decisions in each period and treatment. The rationale underlying Table 2 is as follows:

- **Period 1 (equal in T-DEL and T-IND):** Individuals make their decisions privately, without interacting with others or receiving information on others' choices. Hence, none of the social influence mechanisms can operate within the experiment at this stage.
- **Period 2 of T-DEL:** All three mechanisms can potentially influence behavior. Together, they generate the total within-subject preference shift following group deliberation captured by expression (2).
- **Period 3 of T-DEL:** Subjects are reassigned to a new group with whom they do not interact with. As a result, we assume that social identity should no longer be at work. If social identity were the only source of social influence, preferences should shift between periods 1 and 2 but return to pre-deliberation levels in period 3. Conversely, we assume that the effects of persuasion and social comparison persist even after the reshuffling of groups, having already been established in the previous period. Therefore, if these were the only mechanisms operating, preferences in periods 2 and 3 should remain stable. We discuss these auxiliary assumptions in Section 6.
- **Periods 2 and 3 of T-IND:** Prior to making their decision in period 2, subjects were informed about others' initial decisions and asked to write an essay discussing reasons for and against the different allocations. According to SCT, this procedure is necessary and sufficient to induce social comparison. Since participants do not interact, the channels of social identity and persuasion are turned off. Following SCT, we also assume and test below that the effect of social comparison persists in period 3.

If we make the additional assumption that the effects of the three mechanisms are additive, this simple design allows us to estimate the relative weight of each of them to shifts in preferences following deliberation:

$$\begin{aligned} \textbf{Social identity} &= \alpha_{TDEL}^2 - \alpha_{TDEL}^3 \\ \textbf{Social comparison} &= \alpha_{TIND}^2 - \alpha_{TIND}^1 \equiv \alpha_{TIND}^3 - \alpha_{TIND}^1 \\ \textbf{Persuasion} &= (\alpha_{TDEL}^3 - \alpha_{TDEL}^1) - (\alpha_{TIND}^3 - \alpha_{TIND}^1) \equiv \alpha_{TDEL}^3 - \alpha_{TIND}^3 \end{aligned}$$

The sum of these effects is equal to the total preference shift following group deliberation captured in expression (2) above.

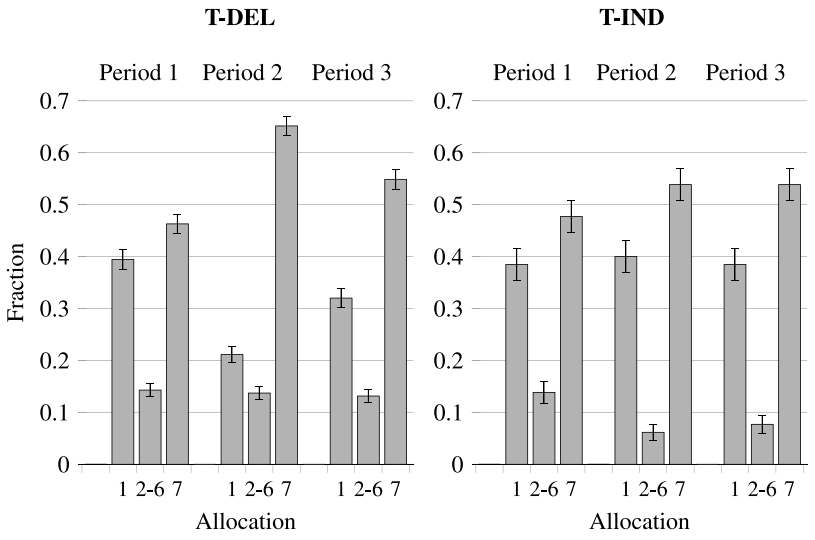


Fig. 2. Distribution of preferred allocations across periods in T-DEL and T-IND.
Notes: The main bars indicate the percentages of subjects who prefer allocation a1 ('1'), an allocation between a2 and a6 ('2-6') and a7 ('7') per treatment. The error bars display one standard error of the mean, with values based on a logit estimation conducted for each period with three binary variables for allocations as independent variables (a1, a2–a6, and a7).

4.3. Hypotheses

We can make the following hypotheses by applying PAT, SCT, and SIT to our setting (see Section 2):

Hypothesis 1. Social comparison increases the average degree of egalitarianism ($\alpha^3_{TIND} - \alpha^1_{TIND} > 0$).

Hypothesis 2. Persuasion increases the average degree of egalitarianism ($\alpha^3_{TDEL} - \alpha^3_{TIND} > 0$).

Hypothesis 3. Social identity increases the average degree of egalitarianism ($\alpha^2_{TDEL} - \alpha^3_{TDEL} > 0$).

Since the three mechanisms are potentially at work during the group deliberation phase, we can immediately derive:

Hypothesis 4. The average degree of egalitarianism increases after group deliberation ($\alpha^2_{TDEL} - \alpha^1_{TDEL} > 0$).

Since only SCT is relevant during individual deliberation, we can also put forward:

Hypothesis 5 The average degree of egalitarianism increases after individual deliberation, but less so than after group deliberation ($\alpha^2_{TDEL} - \alpha^1_{TDEL} > \alpha^2_{TIND} - \alpha^1_{TIND} > 0$).

5. Results

All results in this section refer to the stochastic dictator task. The comparison between stochastic dictator decisions and Borda votes is discussed in Section 6.

Before presenting our main findings, we describe the distribution of most-preferred allocations across periods, as this offers a useful graphical presentation of the raw data. Fig. 2 depicts these patterns for both T-DEL and T-IND. In T-DEL, the share of subjects preferring a1 decreases from 40% before group deliberation (period 1) to 20% afterward (period 2), while the share preferring the most egalitarian allocation (a7) rises from 46% to 65%. After reshuffling the groups (period 3), we observe an "intermediate" distribution, with 32% of subjects selecting a1 as their preferred allocation and 55% selecting a7. In T-IND, two differences stand out. First, the shift toward more egalitarian preferences between periods 1 and 2 is small and substantially weaker than in T-DEL. Second, consistent with SCT, preferences remain stable between periods 2 and 3, showing neither reversal nor further shift.[2]

[2] Full analysis with the preferred allocation as a proxy for the degree of egalitarianism, including statistical tests, is presented in Appendix F.1.

Table 3
Kemeny distances across periods in T-DEL.

	Mean	% with K-distance			Signed-rank tests	
		= 0	∈]0, 1[	= 1	= period 2	= period 3
All members						
Period 1	0.52	33.71	23.43	42.86	$p < 0.001$	$p = 0.034$
Period 2	0.71	17.14	28.57	54.29		$p = 0.048$
Period 3	0.62	29.14	18.86	52.00		
Rich members						
Period 1	0.08	75.71	22.86	1.43	$p < 0.001$	$p = 0.269$
Period 2	0.39	40.00	41.43	18.57		$p = 0.017$
Period 3	0.16	70.00	22.86	7.14		
Median members						
Period 1	0.69	11.43	34.29	54.29	$p = 0.022$	$p = 0.051$
Period 2	0.87	2.86	25.71	71.43		$p = 0.593$
Period 3	0.85	2.86	28.57	68.57		
Poor members						
Period 1	0.89	2.86	18.57	78.57	$p = 0.208$	$p = 0.032$
Period 2	0.95	1.43	17.14	81.43		$p = 0.110$
Period 3	0.96	1.43	10.00	88.57		

Notes: K-distance measures the distance between a subject's rankings and the "least egalitarian ranking". It takes values between 0 (the most egalitarian ranking) and 1 (the least egalitarian one). Signed-rank tests for clustered data, clustering at the group level for period 1 = period 2 and at the session level for period 1 = period 3 and period 2 = period 3 (see Datta and Satten 2008).

Table 4
Kemeny distances across periods in T-IND.

	Mean	% with K-distance			Signed-rank tests	
		= 0	∈]0, 1[	= 1	= period 2	= period 3
All members						
Period 1	0.52	33.85	23.08	43.08	$p = 0.048$	$p = 0.111$
Period 2	0.57	35.38	16.92	47.69		$p = 0.308$
Period 3	0.56	36.92	15.38	47.69		
Rich members						
Period 1	0.08	76.92	19.23	3.85	$p = 0.900$	$p = 0.386$
Period 2	0.12	80.77	15.38	3.85		$p = 0.155$
Period 3	0.06	84.62	15.38	0.00		
Median members						
Period 1	0.56	7.69	61.54	30.77	$p = 0.045$	$p = 0.152$
Period 2	0.71	7.69	46.15	46.15		$p = 0.815$
Period 3	0.74	7.69	46.15	46.15		
Poor members						
Period 1	0.94	3.85	7.69	88.46	$p = 0.150$	$p = 0.158$
Period 2	0.96	3.85	3.85	92.31		$p = 0.311$
Period 3	0.96	3.85	0.00	96.15		

Notes: K-distance measures the distance between a subject's rankings and the "least egalitarian ranking". It takes values between 0 (the most egalitarian ranking) and 1 (the least egalitarian one). Signed-rank tests for clustered data, clustering at the group level for period 1 = period 2 and at the session level for period 1 = period 3 and period 2 = period 3 (see Datta and Satten 2008).

5.1. The egalitarian shift

Table 3 presents our main results on preference changes using the Kemeny distance measure, which takes into account subjects' complete ranking of allocations. As shown, preferences become substantially more egalitarian after group deliberation. This change is large and statistically significant. After groups are reshuffled, there is some reversion toward the original, less egalitarian positions. However, this reversal is incomplete: preferences in period 3 remain significantly more egalitarian than in period 1. These findings support Hypothesis 4.

These within-subject results are supported by our between-subject comparison. As shown in Table 4, individual deliberation with social comparison (T-IND) also produces a statistically significant egalitarian shift. However, consistent with Fig. 2, the magnitude of this shift is much smaller than in T-DEL (a 0.05 vs. 0.19 change in K-distance). Moreover, the egalitarian shift from period 1 to period 2 is statistically significantly larger in T-DEL than in T-IND ($p = 0.020$, Wald test based on column 2 of Table A2 in Appendix B), indicating that group deliberation causally affects individual distributional preferences even after accounting for the effect of individual deliberation with social comparison. Consistent with SCT, Table 4 also shows no statistically significant differences between periods 2 and 3. These results support Hypotheses 4 and 5.

Table 5
Decomposition results.

	Total	Identity	Social Comp.	Persuasion	SC+P
All members					
K-distance (coef)	0.190	0.091	0.045	0.054	0.099
Wald tests (*p*-value)	0.000	0.001	0.204	0.197	0.000
Rich members					
K-distance (coef)	0.312	0.228	0.013	0.070	0.084
Wald tests (*p*-value)	0.000	0.001	0.709	0.233	0.043
Median members					
K-distance (coef)	0.214	0.020	0.069	0.125	0.194
Wald tests (*p*-value)	0.001	0.477	0.350	0.069	0.000
Poor members					
K-distance (coef)	0.055	−0.011	0.064	0.002	0.066
Wald tests (*p*-value)	0.040	0.389	0.127	0.966	0.003

Notes: This table reports the decomposition results using the regression estimates reported in columns 2–5 of Table A2 in Appendix B. Total stands for $\alpha^2_{TDEL} - \alpha^1_{TDEL}$, Identity for $\alpha^2_{TDEL} - \alpha^3_{TDEL}$, Social Comp. for $\alpha^2_{TIND} - \alpha^1_{TIND}$, and Persuasion for $\alpha^3_{TDEL} - \alpha^3_{TIND}$ (see Section 4.2). SC+P stands for the joint effect of social comparison and persuasion.

Further insights emerge when examining results by position (see Table 3). For poor members, self-interest and egalitarian motives align. Unsurprisingly, the vast majority of these subjects (78.57%) choose the most egalitarian ranking in period 1, with only a modest further shift toward equality over time. For median members, who face an impartial trade-off between equality and efficiency, preference shifts are more pronounced. Egalitarian motives already dominate before deliberation (mean K-distance of 0.69), but group deliberation substantially strengthens this tendency, which largely persists after reshuffling. Although the difference between periods 2 and 3 narrowly misses conventional significance ($p = 0.051$), most of the egalitarian shift carries over to the new group context. The pattern is strikingly different for rich members, who face a direct conflict between self-interest and equality. Before deliberation, they are predominantly self-interested or efficiency-oriented, with 75.71% choosing the most inegalitarian ranking. Group deliberation induces a large and statistically significant shift toward more egalitarian preferences. However, unlike other participants, these subjects revert strongly to inegalitarian rankings after group reshuffling in period 3, undoing most of the egalitarian shift.

Finally, T-IND only induces a statistically significant preference shift for median members (see Table 4). This suggests that individual deliberation can shape the preferences of those without clear conflicts of interest, whereas group deliberation exerts a broader and stronger independent influence, affecting both those with and without conflicting material interests.

5.2. What explains the egalitarian shift?

5.2.1. Decomposition

The decomposition results are shown in Table 5 (see Appendix B for the underlying regressions). First, we find that around half of the egalitarian shift appears to be explained by social identity and this contribution is highly statistically significant. Second, we find that even though the effects of persuasion and social comparison are not statistically significant individually, the sum of the two components is highly significant. This sum corresponds to what is left when we subtract social identity from the observed preference shift. The contribution from persuasion seems to be stronger than the one from social comparison, but, given that these weights are estimated with a large margin of error, this conclusion can only be drawn cautiously. These results support Hypotheses 1, 2, and 3.

Additional insights are obtained when looking at results by position. For rich members, we find that social identity appears to explain around three-quarters of their egalitarian shift. We also find a statistically significant joint effect of persuasion and social comparison, but it is very difficult to differentiate them statistically. It seems, however, that persuasion is more important than social comparison for rich members. The pattern is different for median members. In their case, the effect of social identity is not statistically significant. Instead, the explanation behind the statistically significant shift in preferences appears to be the joint effect of persuasion and social comparison. For poor members, the effect of social identity is again not statistically significant. The joint contribution of persuasion and social comparison is statistically significant, and for these members social comparison seems to explain most of their small egalitarian shift.

5.2.2. Chat content analysis

Analyzing the chat content sheds further light into the psychological mechanisms at play (full methodology and results reported in Appendix C). Three research assistants read all the chats and were asked to classify and code the messages according to 24 pre-defined and non-exclusive categories. We assigned a message to a specific category if at least 2 out of the 3 coders agreed. In terms of content, the chat scripts show that all groups engaged in discussion about the allocations and the deliberation was active with an exchange of arguments in favor or against different allocations, simple responses and propositions, greetings, goodbyes, and other out-of-topic messages. The first column of Table 6 reports the average number of different reasoned arguments per group. In line with our assumptions, pro-social arguments (about equality and fairness) are by far the most prevalent. Consistent with

Table 6
Chat content and preference change.

	Mean value	Δ K-Distance	
		β	p-value
	(1)	(2)	(3)
# Pro-social	5.54	0.054	0.003
(# Pro-social)^2		−0.004	0.003
# Efficiency	0.51	−0.045	0.004
# Libertarian	0.26	0.040	0.117
# Appeal to sympathy	0.34	0.011	0.504
# Compromise	0.31	−0.095	0.000
Total	1.39	0.018	0.090

Notes: The first column shows the average number of reasoned arguments per group. Columns 2 and 3 report the partial results of an econometric regression, with the p-values from t-tests for the null hypothesis that β equals 0. The dependent variable is the change in K-distance between periods 1 and 2. Full results are available in Appendix C.

the PAT hypothesis, the number of pro-social arguments are positively associated with egalitarian shifts in preferences, while the effect of efficiency arguments goes in the opposite direction. The only other messages that have a consistent statistically significant effect are arguments seeking a compromise, which are negatively associated with egalitarian shifts, suggesting that compromise is sought by rich members. These results support the insight that group deliberation shapes preferences beyond social identity, and that persuasion plays an important role in that effect (Hypothesis 2).

6. Discussion

In this section, we first discuss the interpretation of our results and possible alternative explanations for our findings. We then comment on their external validity.

We hypothesized that group deliberation triggers three mechanisms of social influence — social comparison, persuasion, and social identity — which together account for the observed changes in individual distributional preferences. While our experiment was set up to separate their relative contributions, some features of the design may potentially influence the link between these mechanisms and observed outcomes.

First, we attribute the change in distributional preferences observed before and after reshuffling the groups in T-DEL to social identity. This interpretation relies on two assumptions. The first is that social comparison and persuasion remain roughly constant between periods 2 and 3. However, this may not always hold. For example, participants might need to be persuaded again that distributional fairness is justified within their new group. This would lead to an overestimation of the contribution of social identity in our main analysis. For social comparison, the stability of preferences between periods 2 and 3 in T-IND supports — though does not prove — the assumption that its effect persists over time.[3] The second assumption is that social identity does not carry over to the new group in period 3. It is conceivable, however, that prior group deliberation could create a lasting sense of shared identity, either through expectations of encountering previous group members or through a more generalized attachment to participants from the same population. We acknowledge this possibility. Nonetheless, it seems reasonable to assume that any social attachment would weaken after the reshuffle, implying that the effect we attribute to social identity ($\alpha^2_{TDEL} - \alpha^3_{TDEL}$) likely represents a lower bound of the true effect.

Second, our identification of persuasion rests on the assumption that T-DEL and T-IND generate comparable social comparison effects. As discussed in Section 3.2, both treatments are designed to induce *sufficient* conditions for social comparison as defined by SCT. Yet, if social comparison is interpreted more broadly than in SCT, its strength may differ across treatments. This would affect our estimation of persuasion's contribution, which relies on the comparison between period 3 choices of T-DEL and T-IND. However, our claim is simply that persuasion constitutes a relevant explanatory mechanism for the egalitarian shift, *even once the roles of social identity and social comparison are accounted for*. This conclusion is supported by the chat content analysis. More broadly, these considerations indicate that the decomposition results should be viewed as suggestive of general behavioral patterns, rather than precise point estimates.

The psychological and economic literatures have proposed several alternative explanations for how communication shapes preferences. One prominent mechanism is conformity, or the tendency to align one's behavior with what is most common in a group (e.g., Akerlof 1980, Bernheim 1994, Bischoff and Egbert 2013, Chen et al. 2010, Krupka and Weber 2009). If conformity were at work in our setting, we would expect subjects to shift toward the majority preference within their group, as in Krupka and Weber (2009), where pro-social behavior increased when participants observed more pro-social choices by others (p. 313). As an informational mechanism, conformity differs from SCT, which predicts shifts toward what is perceived as socially desirable — in our case, the most egalitarian allocation — rather than toward the most prevalent behavior inferred by the majority or median preference of the group. Empirically, we find no evidence of conformity: groups consistently converged toward the most egalitarian

[3] It is also possible that the mechanisms interact (e.g., persuasion may be stronger with group attachment). In this example, $\alpha^2_{TDEL} - \alpha^3_{TDEL}$ would capture both the direct and indirect effects of social identity (the latter through its interaction with persuasion), reflecting a broader notion of its overall impact.

allocation in both T-DEL and T-IND, regardless of their initial median preference, and egalitarian choices did not increase with the observed prevalence of such behavior. Detailed results are reported in Appendix E.

A related alternative explanation is that group members exert social pressure to influence others' behavior. From a theoretical perspective, this mechanism seems weak in our setting. Decisions are private and undisclosed, eliminating opportunities for reciprocity after deliberation. Communication occurs through an anonymous written chat without face-to-face interaction, further reducing the scope for social pressure. Since players' decisions are unobservable after deliberation, concerns about reputation — choosing current actions to shape how others perceive them in the future (see, e.g., Fehr and Fischbacher 2003, Kreps and Wilson 1982) — are also unlikely to play an important role. For similar reasons, "credible" promises or threats made during the deliberation should have limited influence (cf. Ellingsen and Johannesson 2004). Consistent with this interpretation, our chat analysis indicates that compromise-oriented messages, including promises and threats, are rare.

Finally, one might question whether our results from a dictator setting extend to a voting context. Our comparison of stochastic dictator decisions and Borda votes, reported in Appendix D, suggest that they do. This indicates little evidence of non-sincere or strategic voting, although we cannot rule out alternative explanations such as preferences for consistency across rankings tasks (c.f. Kube and Puppe 2009, Van der Straeten et al. 2010).

Of course, this alone does not imply that deliberation will always lead to more egalitarian preferences in real-world settings. Our experimental setting includes specific features that limit its external validity. For instance, participants' initial positions are exogenously assigned, remain fixed across periods, and cannot be influenced by effort or decisions within the game. The experiment also abstracts from status and the potential correlations between social position and preferences, beliefs, or social capital. This means that salient real-world considerations such as merit, responsibility, or more sophisticated ethical arguments cannot influence deliberation in our setting. Similarly, rich and poor members were equally represented in the deliberation process. In reality, such equal representation is rare and minorities (be it the rich or the poor) may have fewer opportunities to express their views. Such differences in democratic and bargaining power are excluded in our setting. These were deliberate choices to focus on well-defined research questions with simpler interpretations, but they limit the generalizability of our findings. Future research could explore deliberation in settings where richer ethical considerations matter or group composition is unequal.

7. Concluding remarks

We use a laboratory experiment to study how group deliberation shapes individual distributional preferences. Subjects become significantly more egalitarian after deliberation, with group deliberation producing a larger shift than individual reflection. Social identity appears to be a primary, though not sole, driver of this change, especially for those who lose from equality, while persuasion and social comparison mainly explain shifts among participants whose payoffs are unaffected.

These findings suggest that enabling individuals to exchange arguments about resource allocation can foster pro-social preferences. Building shared identity within deliberative settings appears especially powerful in promoting egalitarian concerns, highlighting the potential of communicative spaces — within organizations or society at large — to enhance support for redistributive institutions. At the same time, on-topic group deliberation seems to influence preferences beyond the formation of psychological ties, affecting both those with and without conflicts of interest. This suggests that the well-documented effect of communication on preferences may operate largely through social identity, whereas on-topic deliberation has a distinct capacity to shape attitudes that simple interaction alone cannot replicate.

Both group and individual deliberation shift preferences, indicating that distributional preferences are dynamic rather than fixed traits. This raises a broader question: which preferences should inform policy, those expressed before or after reflection and dialogue?[4] Addressing this tension calls for theories that explicitly model how deliberative processes shape the preferences that guide collective decisions.

Future work could explore these mechanisms in richer ethical contexts, where responsibility and merit matter (e.g., Cappelen et al. 2010, 2013), or by varying the structure of deliberation itself (e.g., Brandts et al. 2022, Pronin and Woon 2022). More broadly, evidence from different contexts and using diverse methods is needed to strengthen the inferences of this study and assess the generalizability of our findings. Doing so would deepen our understanding of how deliberating together shapes what people want.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary material

Supplementary material related to this article can be found online at https://doi.org/10.1016/j.joep.2026.102893.

[4] For related discussions, see Bernheim (2009, 2016), Manzini and Mariotti (2014), and Ferreira (2023).

Data availability

The replication package for this article can be found online at https://doi.org/10.5281/zenodo.18805742.

References

Agranov, M., & Tergiman, C. (2014). Communication in multilateral bargaining. *Journal of Public Economics*, *118*, 75–85.

Ahn, T. K., Loukas, B., Batsaikhan, M., Campos-Ortiz, F., Putterman, L., & Sutter, M. (2018). Trust and communication in a property rights dilemma. *Journal of Economic Behavior and Organization*, *149*, 413–433.

Akerlof, G. A. (1980). A theory of social custom, of which unemployment may be one consequence. *The Quarterly Journal of Economics*, *94*(4), 749–775.

Alesina, A., & Giuliano, P. (2011). Preferences for redistribution. In J. Benhabib, A. Bisin, & M. Jackson (Eds.), *Handbook of Social Economics*: *Vol. 1A*, (pp. 93–131). New York: Elsevier.

Almås, I., Cappelen, A. W., Sørensen, E., & Tungodden, B. (2010). Fairness and the development of inequality acceptance. *Science*, *328*, 1176–1178.

Almås, I., Cappelen, A., & Tungodden, B. (2020). Cutthroat capitalism versus cuddly socialism: Are Americans more meritocratic and efficiency-seeking than scandinavians? *Journal of Political Economy*, *128*, 1753–1788.

Alós-Ferrer, C., & Granic, G. D. (2023). Does choice change preferences? An incentivized test of the mere choice effect. *Experimental Economics*, *26*, 499–521.

Ambrus, A., Greiner, B., & Pathak, P. (2015). How individual preferences are aggregated in groups: An experimental study. *Journal of Public Economics*, *129*, 1–13.

Andreoli, F., & Olivera, J. (2020). Preferences for redistribution and exposure to tax-benefit schemes in Europe. *European Journal of Political Economy*, *63*(101880), 1–19.

Andreoni, J., & Rao, J. M. (2011). The power of asking: How communication affects selfishness, empathy, and altruism. *Journal of Public Economics*, *95*, 513–520.

Balafoutas, L., Kerschbamer, R., Kocher, M., & Sutter, M. (2014). Revealed distributional preferences: Individuals vs. teams. *Journal of Economic Behavior and Organization*, *108*, 319–330.

Balafoutas, L., Kocher, M., Putterman, L., & Sutter, M. (2013). Equality, equity and incentives: An experiment. *European Economic Review*, *60*, 32–51.

Bartling, B., Valero, V., Weber, R. A., & Yao, L. (2024). Public discourse and socially responsible market behavior. *American Economic Review*, *114*(10), 3041–3074.

Bernheim, B. D. (1994). A theory of conformity. *Journal of Political Economy*, *102*(5), 841–877.

Bernheim, B. D. (2009). Behavioral welfare economics. *Journal of the European Economic Association*, *7*(2–3), 267–319.

Bernheim, B. D. (2016). The good, the bad, and the ugly: A unified approach to behavioral welfare economics. *Journal of Benefit-Cost Analysis*, *7*(1), 12–68.

Bischoff, I., & Egbert, H. (2013). Social information and bandwagon behavior in voting: An economic experiment. *Journal of Economic Psychology*, *34*, 270–284.

Bonnet, I., & Zeckhauser, R. (2004). Social comparisons in ultimatum bargaining. *Scandinavian Journal of Economics*, *106*(3), 495–510.

Bornstein, G., Rapoport, A., Kerpel, L., & Katz, T. (1989). Within- and between-group communication in intergroup competition for public goods. *Journal of Experimental Social Psychology*, *25*(5), 422–436.

Brady, M. P., & Wu, S. Y. (2010). The aggregation of preferences in groups: Identity, responsibility, and polarization. *Journal of Economic Psychology*, *31*(6), 950–963.

Brandts, J., Gerhards, L., & Mechtenberg, L. (2022). Deliberative structures and their impact on voting under economic conflict. *Experimental Economics*, *25*(2), 680–705.

Brandts, J., Giritligil, A. E., & Weber, R. A. (2015). An experimental study of persuasion bias and social influence in networks. *European Economic Review*, *80*, 214–229.

Brown, R. (1974). Further comment on the risky shift. *American Psychologist*, *29*, 468–470.

Brown, R. (1986). *Social Psychology* (2nd ed.). New York: The Free Press.

Burnstein, E., & Vinokur, A. (1975). What a person thinks upon learning he has chosen differently from others: Nice evidence for the persuasive-arguments explanation of choice shifts. *Journal of Experimental Social Psychology*, *11*, 412–426.

Burnstein, E., Vinokur, A., & Trope, Y. (1973). Interpersonal comparisons versus persuasive argument: A more direct test of alternative explanations for group-induced shifts in individual choices. *Journal of Experimental Social Psychology*, *9*, 236–245.

Cappelen, A. W., Hole, A. D., Sørensen, E., & Tungodden, B. (2007). The pluralism of fairness ideals: An experimental approah. *American Economic Review*, *97*(3), 818–827.

Cappelen, A., Konow, J., Sorensen, E., & Tungodden, B. (2013). Just luck: An experimental study of risk-taking and fairness. *American Economic Review*, *103*, 1389–1413.

Cappelen, A., Sorensen, E., & Tungodden, B. (2010). Responsibility for what? Fairness and individual responsibility. *European Economic Review 54, 429-441.*, *54*, 429–441.

Cason, T., & Mui, V.-L. (1997). A laboratory study in group polarisation in the team dictator game. *Economic Journal*, (107), 1465–1483.

Cetre, S., Lobeck, M., Senik, C., & Verdier, T. (2019). Preferences over income distribution: Evidence from a choice experiment. *Journal of Economic Psychology*, *74*, Article 102202.

Cettolin, E., & Riedl, A. (2017). Justice under uncertainty. *Management Science*, *63*(11), 3739–3759.

Charness, G., & Sutter, M. (2012). Groups make better self-interested decisions. *Journal of Economic Perspectives*, *26*(3), 157–176.

Chen, R., & Chen, Y. (2011). The potential of social identity for equilibrium selection. *American Economic Review*, *101*(6), 2562–2589.

Chen, Y., Harper, F. M., Konstan, J., & Li, S. X. (2010). Social comparisons and contributions to online communities: A field experiment on MovieLens. *American Economic Review*, *100*(4), 1358–1398.

Chen, Y., & Li, S. X. (2009). Group identity and social preferences. *American Economic Review*, *99*(1), 437–457.

Costa-Font, J., & Cowell, F. (2015). Social identity and redistributive preferences: A survey. *Journal of Economic Surveys*, *29*(2), 357–374.

Crawford, V. P. (1998). A survey of experiments on communication via cheap talk. *Journal of Economic Theory*, *78*, 286–298.

Crawford, V. P., & Sobel, J. (1982). Strategic information transmission. *Econometrica*, *50*(6), 1431–1451.

Datta, S., & Satten, G. A. (2008). A signed-rank test for clustered data. *Biometrics*, *64*(2), 501–507.

Durante, R., Putterman, L., & der Weele, J. V. (2014). Preferences for redistribution and perception of fairness: An experimental study. *Journal of the European Economic Association*, *12*(4), 1059–1086.

Dworkin, R. (2000). *Sovereign Virtue*. Cambridge MA: Harvard University Press.

Ellingsen, T., & Johannesson, M. (2004). Promises, threats and fairness. *The Economic Journal*, *114*, 397–420.

Ellingsen, T., & Johannesson, M. (2005). Does impartial deliberation breed fair behavior? An experimental test. *Rationality and Society*, *17*(1), 116–136.

Ellman, M., & Pezanis-Christou, P. (2010). Organizational structure, communication, and group ethics. *American Economic Review*, *100*(5), 2478–2491.

Engelmann, D., & Strobel, M. (2004). Inequality aversion, efficiency, and maximin preferences in simple distribution experiments. *American Economic Review*, *94*(4), 857–869.

Fehr, E., & Fischbacher, U. (2003). The nature of human altruism. *Nature*, *425*(6960), 785–791.

Fehr, D., Mollerstrom, J., & Perez-Truglia, R. (2022). Your place in the world: Relative income and global inequality. *American Economic Journal: Economic Policy*, *14*(4), 232–268.
Fehr, D., Rau, H., Trautmann, S. T., & Xu, Y. (2020). Inequality, fairness and social capital. *European Economic Review*, *129*(103566).
Ferreira, J. V. (2023). Which choices merit deference? A comparison of three behavioural proxies of subjective welfare. *Economics and Philosophy*, *39*, 124–151.
Ferreira, J. V., Hanaki, N., & Tarroux, B. (2025). Focal points, beliefs, and distributional preferences: An experimental analysis. ISER Discussion Paper 1287.
Ferreira, J. V., Ramoglou, S., Savva, F., & Vlassopoulos, M. (2026). Preferences for income and wealth limits: Evidence from a survey experiment. *European Economic Review*, *183*(105231).
Fisman, R., Gladstone, K., Kuziemko, I., & Naidu, S. (2020). Do Americans want to tax wealth? Evidence from online surveys. *Journal of Public Economics*, *188*(104207), 1–13.
Fisman, R., Kuziemko, I., & Vannutelli, S. (2021). Distributional preferences in larger groups: Keeping up with the joneses and keeping track of the tails. *Journal of the European Economic Association*, *19*(2), 1407–1438.
Frey, B. S., & Bohnet, I. (1997). Identification in democratic society. *The Journal of Socio-Economics*, *26*(1), 25–38.
Frey, B. S., & Meier, S. (2004). Social comparisons and pro-social behavior: Testing "conditional cooperation" in a field experiment. *American Economic Review*, *94*(5), 1717–1722.
Glazer, J., & Rubinstein, A. (2004). On optimal rules of persuasion. *Econometrica*, *72*(6), 1715–1736.
Goeree, J. K., & Yariv, L. (2011). An experimental study of collective deliberation. *Econometrica*, *79*(3), 893–921.
Heap, S. P. H., Tsutsui, K., & Zizzo, D. J. (2020). Vote and voice: An experiment on the effects of inclusive governance rules. *Social Choice and Welfare*, *54*(1), 111–139.
Kamas, L., & Preston, A. (2012). Distributive and reciprocal fairness: What can we learn from the heterogeneity of social preferences? *Journal of Economic Psychology*, *33*(3), 538–553.
Kamenica, E., & Gentzkow, M. (2011). Bayesian persuasion. *American Economic Review*, *101*(6), 2590–2615.
Kemeny, J. (1959). Mathematics without numbers. *Daedalus*, *88*(4), 577–591.
Kittel, B., Luhan, W., & Morton, R. (2014). Communication and voting in multi-party elections: An experimental study. *The Economic Journal*, *124*(574), 196–225.
Konow, J. (2000). Fair shares: Accountability and cognitive dissonance in allocation decisions. *American Economic Review*, *90*(4), 1072–1091.
Konow, J., Saijo, T., & Akai, K. (2020). Equity versus equality: Spectators, stakeholders and groups. *Journal of Economic Psychology*, *77*(102171).
Kreps, D. M., & Wilson, R. (1982). Reputation and imperfect information. *Journal of Economic Theory*, *27*(2), 253–279.
Krupka, E. L., & Weber, R. A. (2009). The focusing and informational effects of norms on pro-social behavior. *Journal of Economic Psychology*, *30*, 307–320.
Krupka, E. L., & Weber, R. A. (2013). Identifying social norms using coordination games: Why does dictator game sharing vary? *Journal of the European Economic Association*, *11*(3), 495–524.
Kube, S., & Puppe, C. (2009). (When and how) do voters try to manipulate? Experimental evidence from Borda elections. *Public Choice*, *139*, 39–52.
Kuziemko, I., Norton, M., Saez, E., & Stantcheva, S. (2015). How elastic are preferences for redistribution? Evidence from randomized survey experiments. *American Economic Review*, *105*, 1478–1508.
Luhan, W. J., Kocher, M. G., & Sutter, M. (2009). Group polarization in the team dictator game reconsidered. *Experimental Economics*, *12*, 26–41.
Manzini, P., & Mariotti, M. (2014). Welfare economics and bounded rationality: The case for model-based approaches. *Journal of Economic Methodology*, *21*(4), 343–360.
Mengel, F., & Weidenholzer, E. (2022). Preferences for redistribution. *Journal of Economic Surveys*, 1–18.
Myers, D. G., & Lamn, H. (1976). The group polarization phenomenon. *Psychological Bulletin*, *83*(4), 602–627.
Penczynski, S. P. (2016). Persuasion: An experimental study of team decision making. *Journal of Economic Psychology*, *56*, 244–261.
Pronin, K., & Woon, J. (2022). Does allowing private communication lead to less prosocial collective choice? *Social Choice and Welfare*, 1–21.
Pruitt, D. G. (1971a). Choice shifts in groups discussion: An introductory review. *Journal of Personality and Social Psychology*, *20*, 339–360.
Pruitt, D. G. (1971b). Conclusions: Toward an understanding of choice shifts in group discussion. *Journal of Personality and Social Psychology*, *20*, 495–510.
Schokkaert, E., & Tarroux, B. (2021). Empirical research on ethical preferences: How popular is prioritarianism? In M. Adler, & O. Norheim (Eds.), *Prioritarianism in Practice*. Cambridge: Cambridge University Press.
Schulz, J. F., Fischbacher, U., Thöni, C., & Utikal, V. (2014). Affect and fairness: Dictator games under cognitive load. *Journal of Economic Psychology*, *41*, 77–87.
Sharma, S. (2015). Gender and distributional preferences: Experimental evidence from India. *Journal of Economic Psychology*, *50*, 113–123.
Sulkin, T., & Simon, A. F. (2001). Habermas in the lab: A study of deliberation in an experimental setting. *Political Psychology*, *22*(4), 809–826.
Sutter, M., Kocher, M., & Praxmarer, M. (2020). Team decision-making. In K. F. Zimmermann (Ed.), *Handbook of Labor, Human Resources and Population Economics* (pp. 1–25). Springer.
Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin, & S. Worchel (Eds.), *The Social Psychology of Intergroup Relations*. Monterey, CA: Wadsworth.
Ueshima, A., Mercier, H., & Kameda, T. (2021). Social deliberation systematically shifts resource allocation decisions by focusing on the fate of the least well-off. *Journal of Experimental Social Psychology*, *92*(104067).
Valley, K., Thompson, L., Gibbons, R., & Bazerman, M. H. (2002). How communication improves efficiency in bargaining games. *Games and Economic Behavior*, *38*(1), 127–155.
Van der Straeten, K., Laslier, J.-F., Sauger, N., & Blais, A. (2010). Strategic, sincere, and heuristic voting under four election rules: An experimental study. *Social Choice and Welfare*, *35*(3), 435–472.
Yamamori, T., Kato, K., Kawagoe, T., & Matsui, A. (2008). Voice matters in a dictator game. *Experimental Economics*, *11*, 336–343.
Zultan, R. (2012). Strategic and social pre-play communication in the ultimatum game. *Journal of Economic Psychology*, *33*(3), 425–434.