

Deliberation Enhances Endorsements of the “Maximin” Allocation (as Opposed to the Egalitarian Allocation) in Third-party Distributive Decisions

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Summary for a quick glance

- Debates over what constitutes a fair distribution of resources have always been central to democratic societies, but how does discussion affect resource allocation decisions?
- We measured participants' allocation decisions before and after they discuss such decisions with another participant.
- Result 1:** Participants who favors maximin allocation (i.e., maximize [maxi] the resources of the less well-off [min]) convinced egalitarian participants (those who favor the most equal allocation) to shift to the maximin allocation.
- Result 2:** Frequencies of comparisons made between the maximin and the egalitarian allocation in the discussion related to shifts from the egalitarian to the maximin allocation after the discussion.
- Result 3:** Such shifts were long-lasting (kept for five months), demonstrating that some egalitarian participants may have internalized the maximin logic.

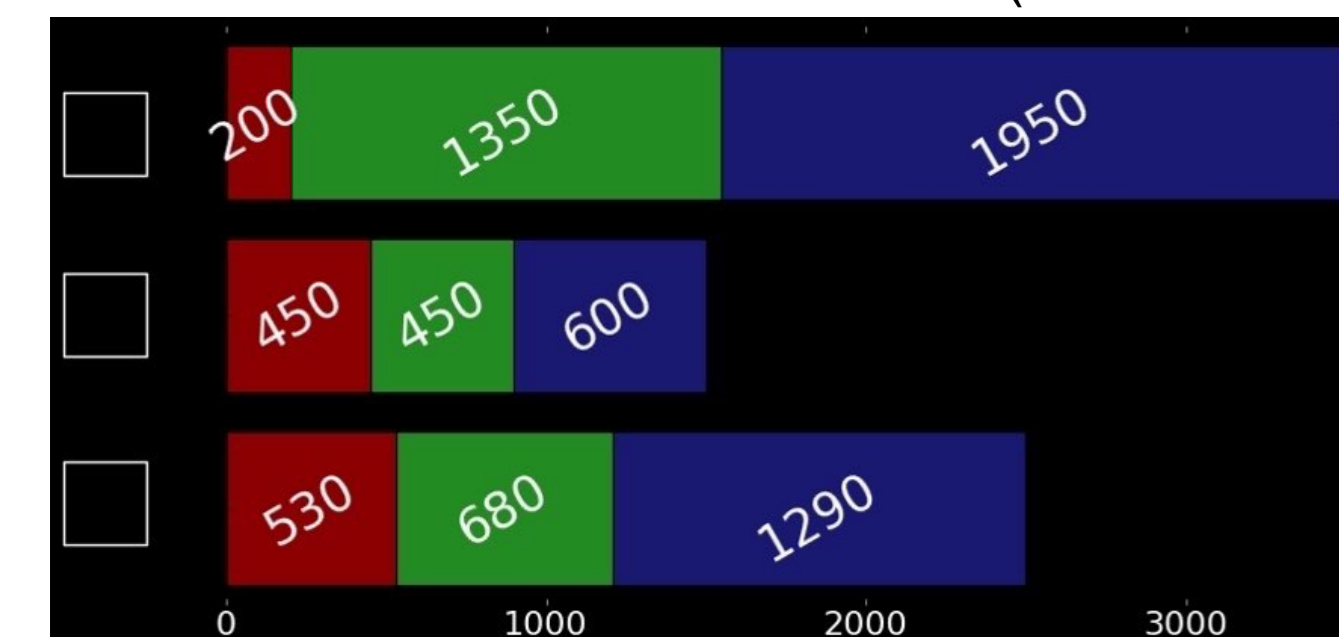
Background

Humans are said to have strong egalitarian preferences. However, recent studies have suggested that egalitarianism is mostly a heuristic way of protecting the less well-off, attempting to maximize (maxi) the resources of the less well-off (min) (Engelmann and Strobel, 2002; Kameda et al., 2016). When equality and maximin are in conflict, some participants might choose the most equal allocation as a result of heuristic, when in fact choosing the maximin allocation would be more coherent with their preferences. If this is the case, a participant who favors the maximin allocation should be able to convince these participants to shift to the maximin allocation. To test this hypothesis, we asked participants to make resource allocation decisions pitting a utilitarian (largest payoff), an egalitarian (lowest variance), and a maximin (highest payoff for the least well-off) allocation, before and after discussing such decisions with a peer.

Methods

Study 1: 156 student volunteers from Hokkaido Univ. (Japan). (99 males; mean age = 19.3).
Study 2: 166 student volunteers from Hokkaido Univ. (91 males; mean age = 19.3).

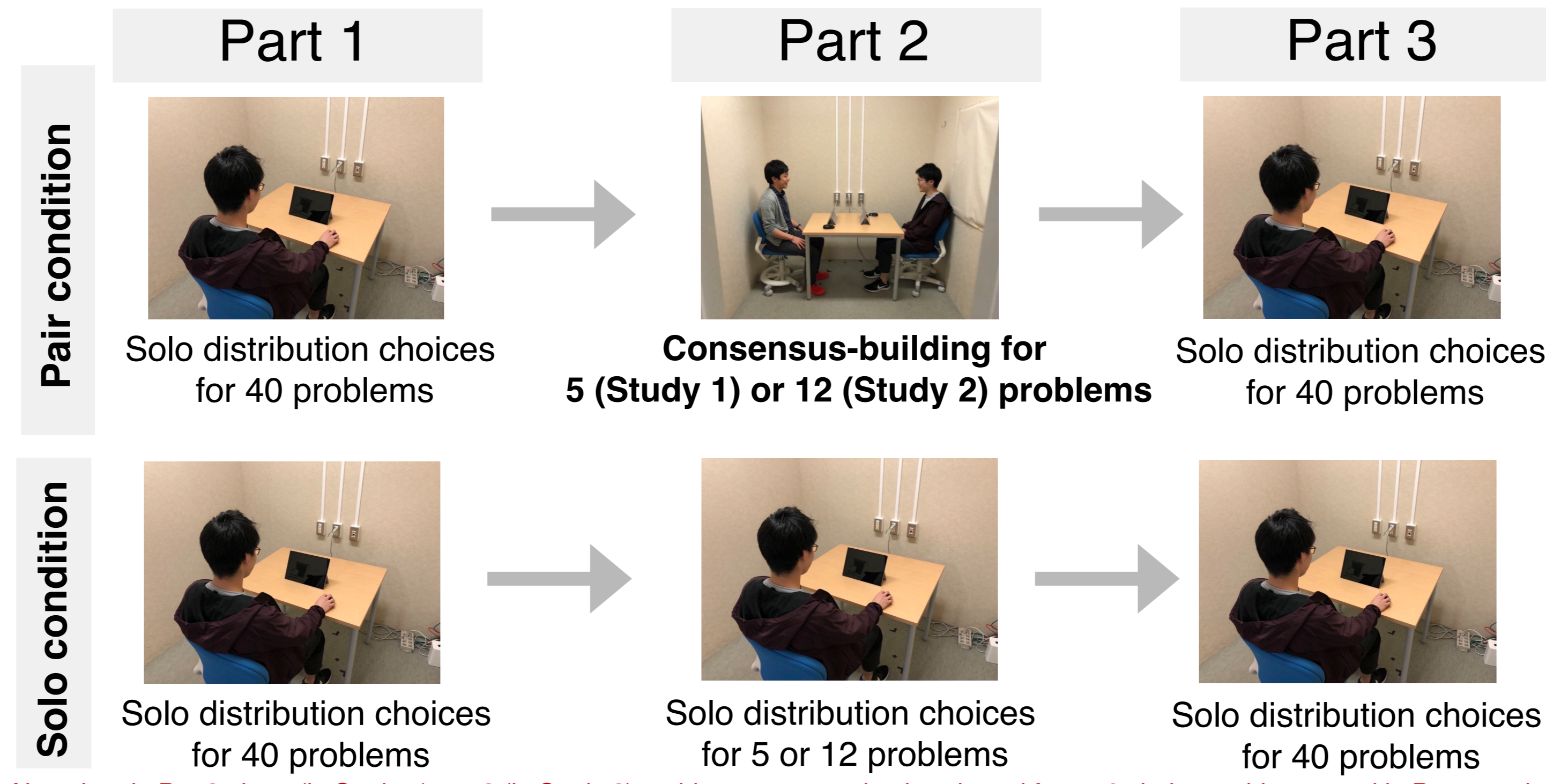
For each problem, participants chose one of three options as an allocation for three unknown others (Kameda et al., 2016).



An example of three choice options (in JPY)

Email: ueshima73@gmail.com, Website: https://ueshima73.github.io

Procedure



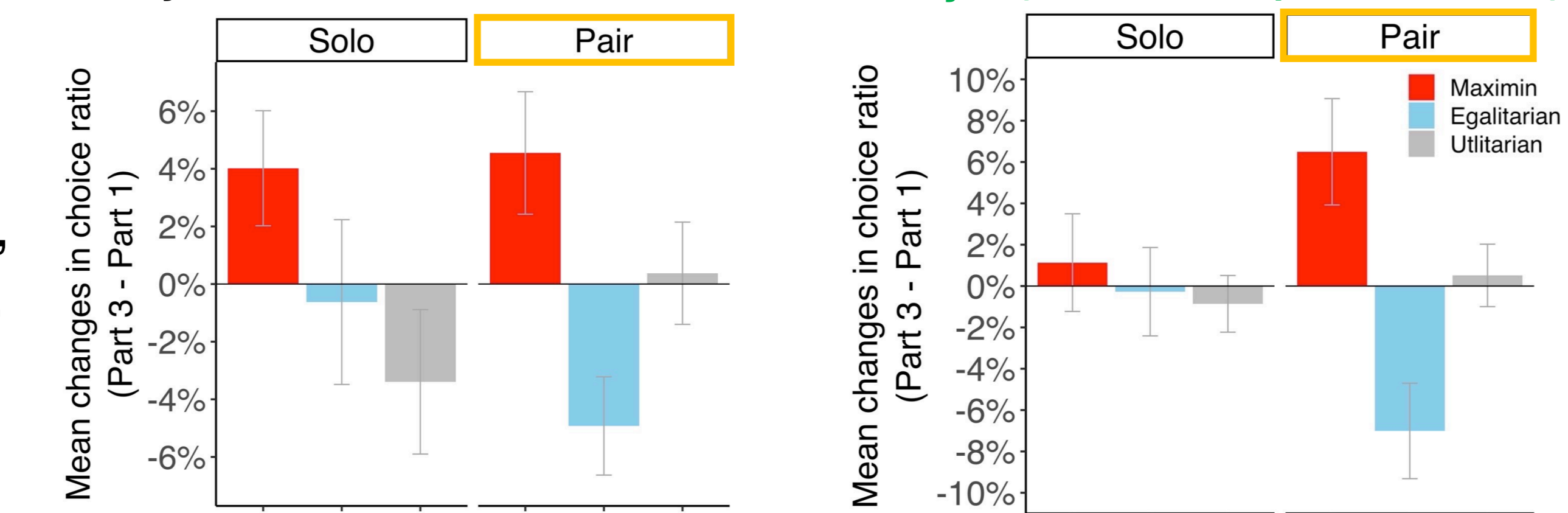
Note that, in Part 2, the 5 (in Study 1) or 12 (in Study 2) problems were randomly selected from 40 choice problems used in Part 1 and 3. The 5 problems in Study 1 were fixed across pairs and individuals. The 12 problems in Study 2 were randomized across pairs and individuals so that we could prevent bias arising from the use of fixed sets of problems in Part 2.

Results

Result 1:

Q. Did group discussion enhance endorsements of the Maximin allocation (as opposed to the Egalitarian allocation)?

Study 1 (Solo vs. Pair) | Study 2 (an internal replication result) (Solo vs. Pair)

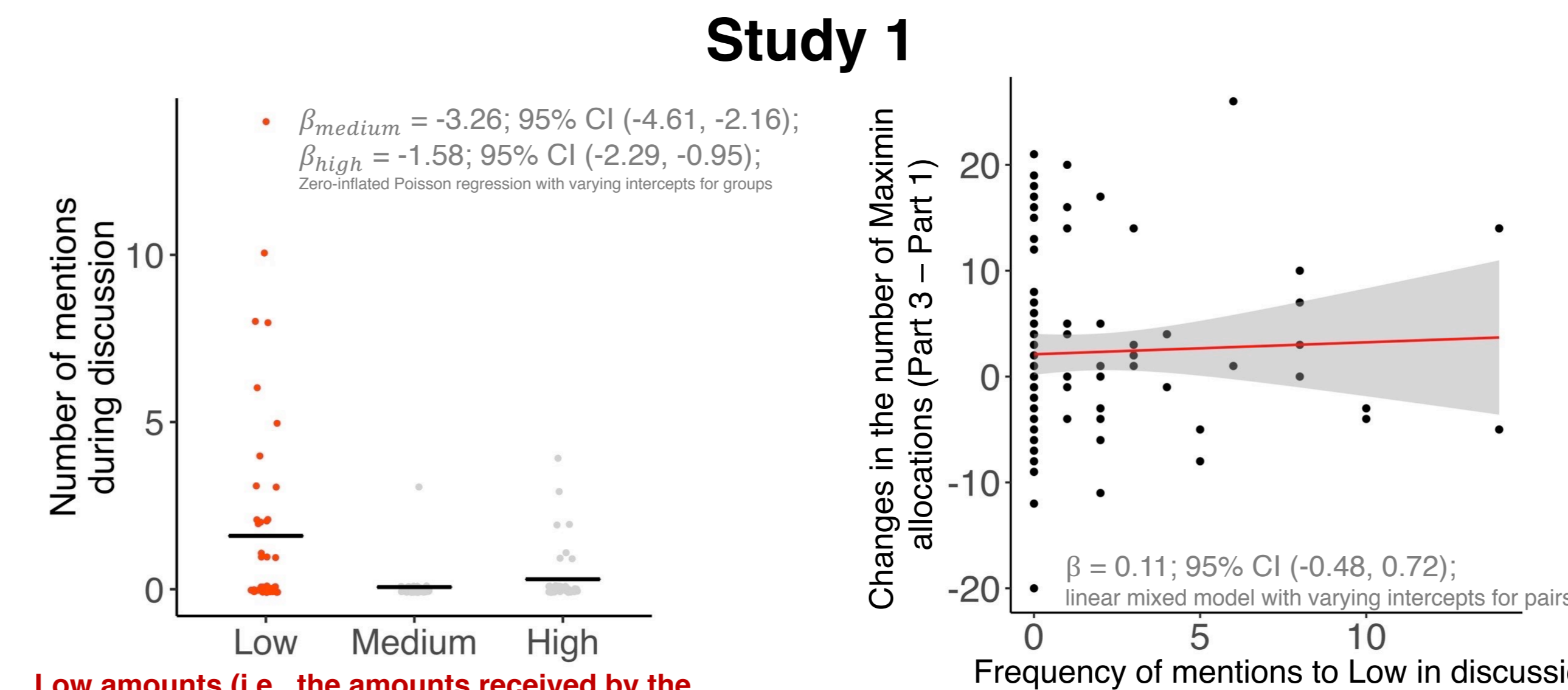


Study 1: $\beta_{\text{pair-part3}} = 0.47$; (0.2, 0.74) 95% credible interval; Study 2: $\beta_{\text{pair-part3}} = 0.68$; 95% CI (0.45, 0.92); multinomial logistic regression with varying intercepts for participants

These shifts from Egalitarian to Maximin allocations in the Pair condition were observed not only in the problems discussed (5 problems in Study 1 and 12 problems in Study 2, out of 40 problems) but also the problems not discussed in the discussion stage (the remaining 35 or 28 problems), indicating that participants learned the difference between the Maximin and Egalitarian allocations as a meta-level, transferable knowledge (Gick & Holyoak, 1983).

Result 2:

Q. What kind of discussion related to shifts from Egalitarian to Maximin allocation?



Low amounts (i.e., the amounts received by the poorest recipient) were most frequently mentioned compared to the amounts received by the two other “better-off” recipients (i.e., “Medium” and “High”).

Simply mentioning the Low (i.e., mentions of maximin concern) in the discussion did not relate to the increase in the number of Maximin allocations after the discussion.

Result 2 (cont.):

Study 2

Based on previous literature on category learning (cf. Edwards et al., 2019), we hypothesized that the extent of direct comparisons recruited between the maximin and egalitarian dimensions in the discussion may be the key to understand the difference between the maximin and the egalitarian logics. To test this hypothesis, in Study 2, we presented the same choice problems along with the information of the egalitarian dimension (variance of amounts) and counted the number of comparisons recruited between the maximin and the egalitarian dimensions in the discussion (see below).

Low	Medium	High	Variance	Total
200	1350	1950	0.33	3500
450	450	600	0.06	1500
530	680	1290	0.20	2500

An example of three choice options in Study 2. The Variance is Gini coefficient (inequality) of Low, medium, and high amounts.

Table 1. An example pair's discussion.

No.	Person	Content
1	A	How did you choose in Part 1?
2	B	I made choices based on the Low and prioritized to improve the welfare of the person who would receive the Low amount.
3	A	OK. My choices were based on the Variance , and I basically minimized the Variance . However, I reconsidered this rule when the Low was below 200 yen because I felt sorry for the poorest recipient.
4	B	I see.
(Discussion continued)		

We used the frequency of consecutive mentions to “Low” and “Variance” in each discussion as a measure of the direct comparisons between the maximin and the egalitarian dimensions. In Table 1, “Low” and “Variance” were mentioned consecutively twice (one was from “Low” to “Variance” and the other was from “Variance” to “Low”).

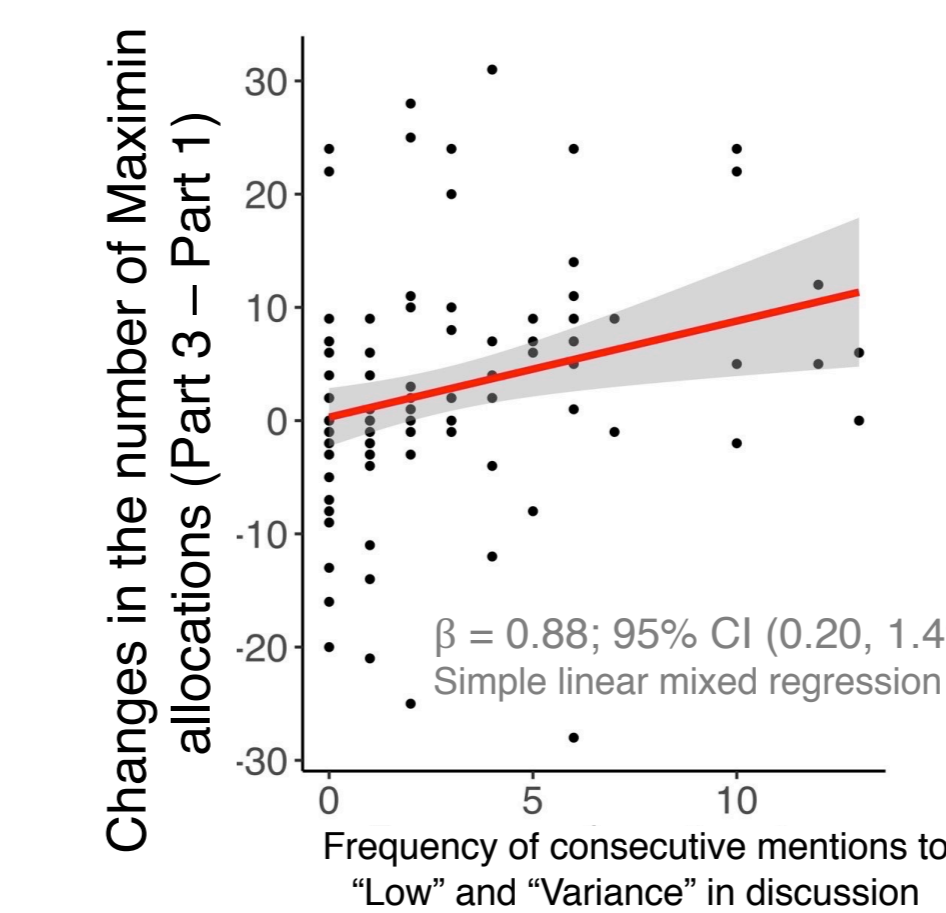


Table 2. Multiple regression results using the frequency of consecutive mentions to “Lows” (“Low” to “Low”) and “Variances” (“Variance” to “Variance”) in addition to “Low” and “Variance” in the discussion.

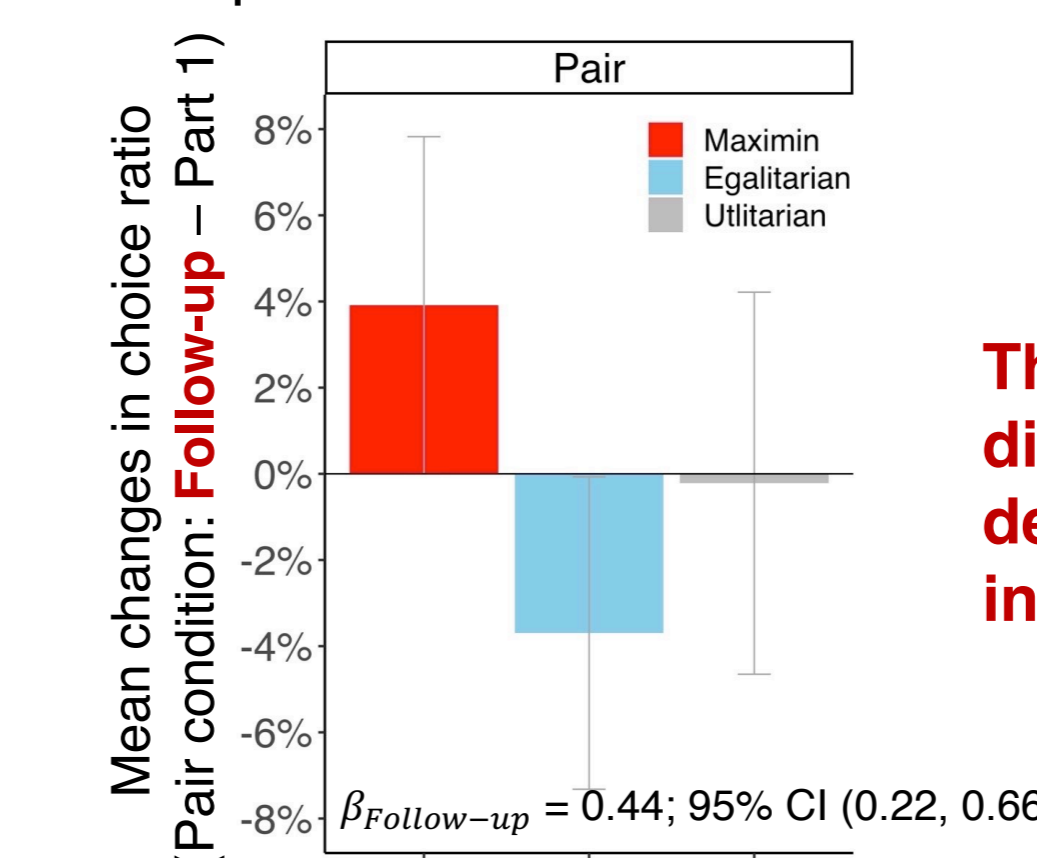
Predictor	Posterior mean (beta)	95% CI
Intercept	-0.97	[-4.19, 2.26]
Low-Variance	0.87	[0.04, 1.71]
Low-Low	0.54	[-0.24, 1.32]
Variance-Variance	-0.37	[-1.41, 0.68]

The frequencies of consecutive mentions to Low and Variance selectively contributed to the increase in the number of Maximin allocations after the discussion.

Result 3:

Q. Were the shifts from Egalitarian to Maximin allocation long-lasting?

We conducted a follow-up online study in which some participants from Study 2 were confronted again with the same 40 allocation problems as in Part 1 and Part 3, but five months after Study 2 took place.



The shifts from an egalitarian to a maximin allocation after the discussion were long-lasting (kept at least for five months), demonstrating that some egalitarian participants may have internalized the maximin logic.

Discussion

Our work sheds light on the effects of group discussion on resource allocation decisions. We found that some heuristic egalitarians were convinced to appropriate the maximin logic through the discussion and such preference shifts were long-lasting. We suggest that the discussion would be fruitful to get people more in line with the true preferences, more enlightened opinions.

Acknowledgement: We are grateful to Hugo Mercier for valuable comments. This research was supported by Japan Society for the Promotion of Science Grant-in-Aid for Scientific Research JP16H06324 to Tatsuya Kameda.