Fair Cooperation

Rui Guan[1] Andis Sofianos[2]

[1]University of Kent

[2]Durham University

Workshop on Psychological and Economic Perspectives on Inequality – October 2025

Motivation

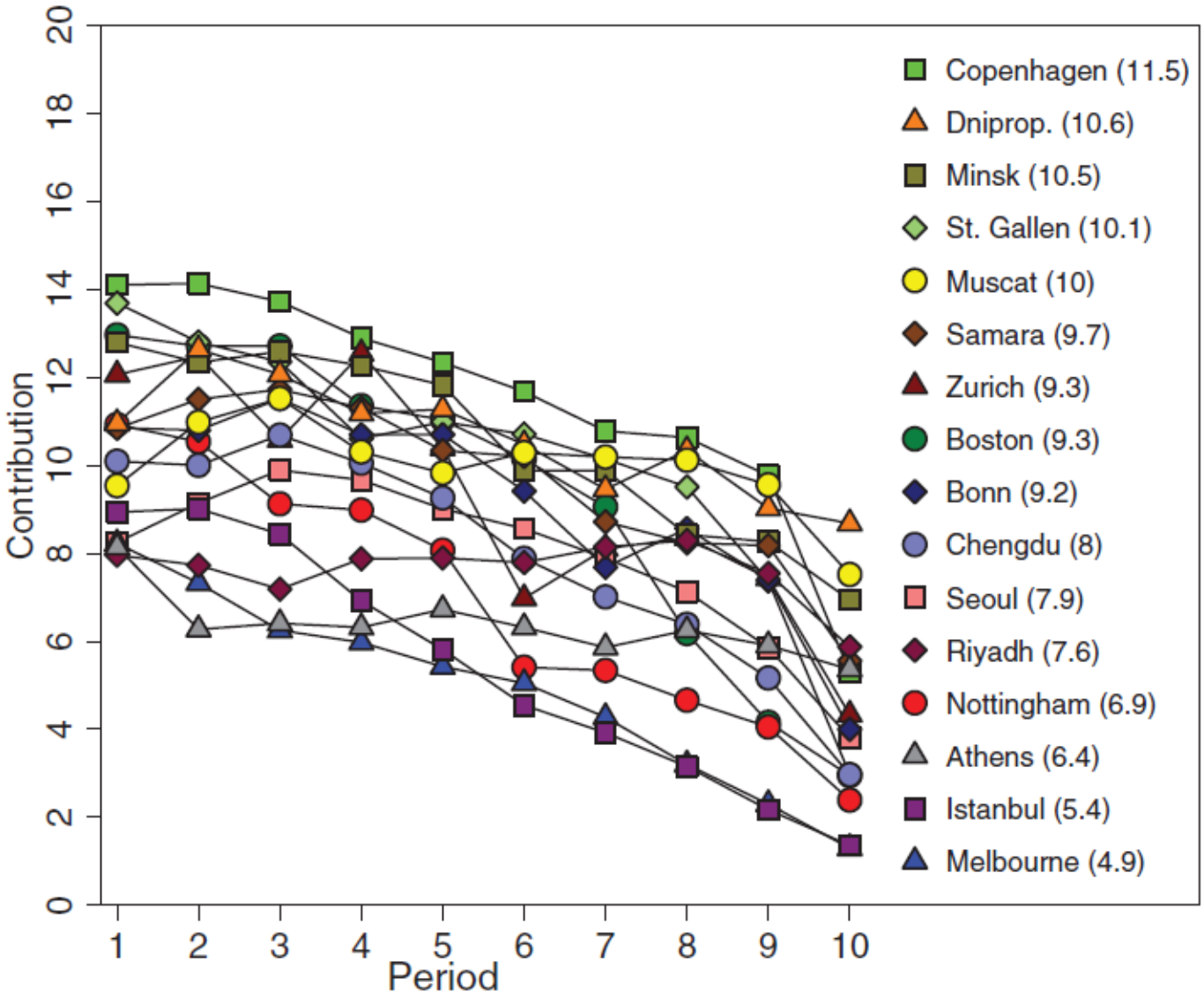
- Cooperation is a fundamental part of daily life
- We make a choice to cooperate in various different areas:
  - Some examples: teamwork, contributions to clubs or schools, environmental protection
- Cooperation is also a key building block in evolutionary biology

"Without cooperation there can be neither construction nor complexity in evolution"

Nowak and Highfield (2012)

Cooperation Variation Across Societies

Herrmann et al. (2008)

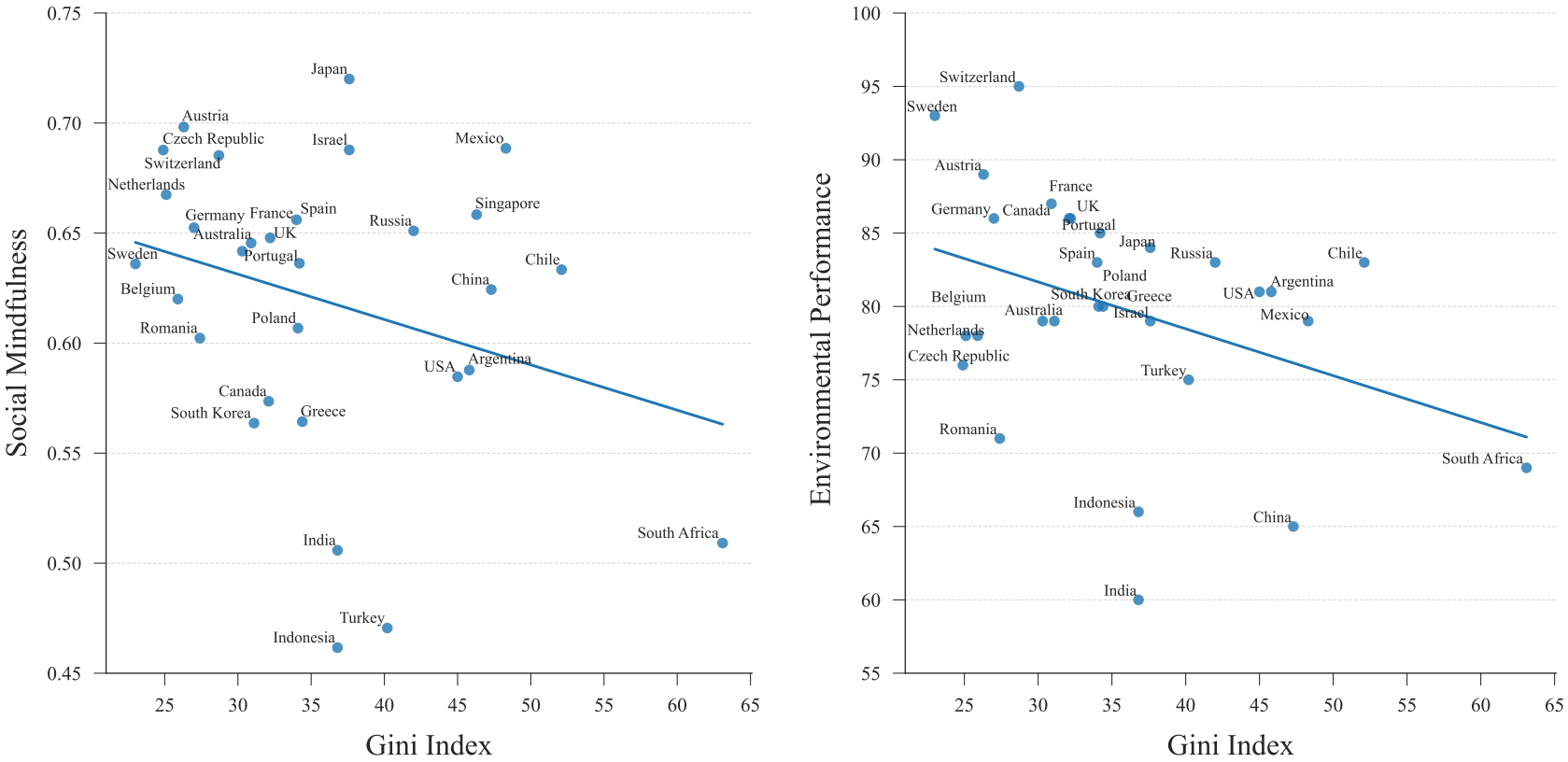


Under high inequality, cooperation may be shaped by:

- **Inequality aversion**
  - Different views on inequality (e.g., Almås, Cappelen, and Tungodden, 2020; Almås et al., 2022; Cappelen et al., 2023)
- **Reciprocity**
  - Cross-country variation in conditional cooperation (Kocher et al., 2008)
- Other factors: endowments, productivity, and social networks (e.g., Côté, House, and Willer, 2015; Hauser et al., 2019; Bland et al., 2023; Malthouse et al., 2023; Stallen et al., 2023)

Pro-Sociality & Inequality: Some Evidence

Van Doesum et al. (2021)



Gini Index from CIA, with associations to *Social Mindfulness* ($p = 0.070$) and *Environmental Performance* ($p = 0.045$).

Overview

Research Questions

1. Do economic and institutional structures shape cooperation?
   - Which institutions are perceived as fair?
2. How do inequality and fairness perceptions affect cooperation?
   - What drives behavior: inequality aversion or reciprocity?

Our Contribution

- Provide causal evidence by experimentally varying these structures
- Show how the effects of inequality differ

Experimental Design: Overview

Between-subjects design with two stages, in groups of 4:

Stage 1

- Individually complete a task based on ability and effort
- Earnings are redistributed within the group
- Treatment variation on difficulty and redistribution regime

Stage 2

- Play a public good game
- First one-shot (no feedback), then eight rounds with feedback

Implementation ▸ Details

- Demographics & personality traits at the end
- 640 Prolific participants equally distributed across treatments

Experimental Design: Stage 1

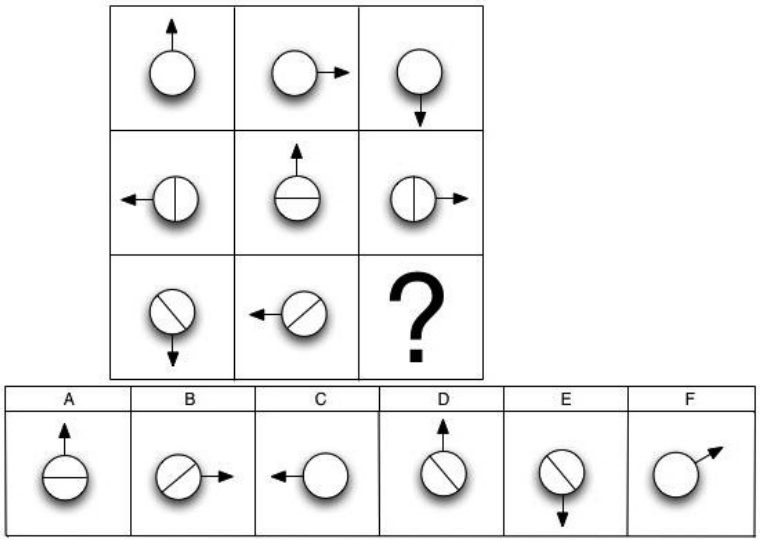
▸ Stage 1: Instructions

- Five matrix reasoning and five three-dimensional rotation questions (Condon and Revelle, 2014)
  - Receive 10 experimental tokens per correct answer
- After all group members complete, earnings are redistributed according to treatments

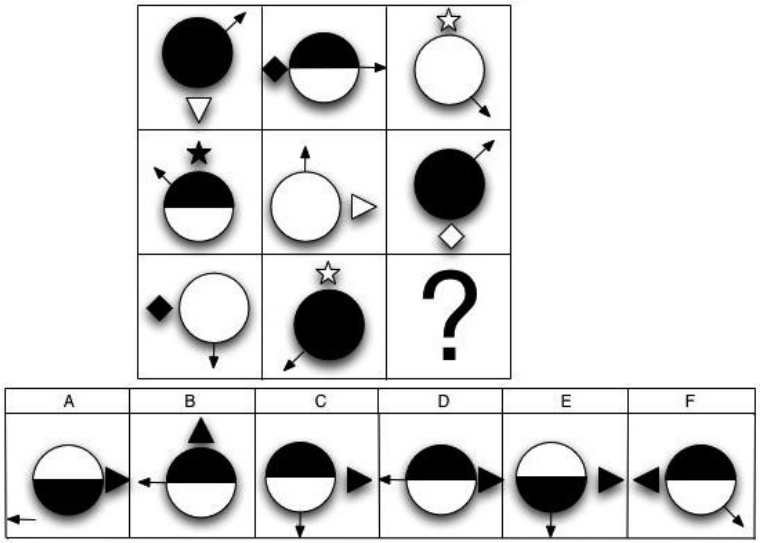
Treatments: 2×2 Between-Subjects Design

		Redistribution Rate	
		Low (5%)	*High* (50%)
Task Difficulty	*Difficult*	DLR	DHR
	Easy	ELR	EHR

Examples of Task Questions



(a)



(b)

- Population Data
- Psychometric Analysis

Feedback Screen for Stage 1

Part 1 Results Summary

You are Player **B.**

Group Earnings				
A	B	C	D	Total
10	40	0	20	70

Your Payoff Details			
Earning	Tax Amount Paid	Group Redistribution	Your Payoff
40	20	8.75	28.75

Note:

$$\text{Your Payoff} = \text{Your Earning} - \text{Your Tax Amount Paid} + \text{Group Redistribution}$$

$$\text{Your Tax Amount Paid} = \mathbf{50\%} \times \text{Your Earning}$$

$$\text{Group Redistribution} = \frac{\mathbf{50\%} \times \text{Total Group Earning}}{\mathbf{4}}$$

- Indicate the perceived fairness of the outcome after Stage 2

▸ Screen

Experimental Design: Stage 2

- Same groups play a public good game
  1. A one-shot iteration without feedback;
  2. 8 repeated-round iteration with feedback
- Each round identically features:
  - Endowment of 100 tokens;
  - Marginal Per Capita Return (MPCR) $= 0.4$;
  - Individual i's payoff function:

$$\pi_i(c_i) = 100 - c_i + 0.4 * \sum_{j=1}^{4} c_j$$

- Payment $=$ one-shot iteration $+$ one randomly selected round from the repeated iteration

▸ Stage 2: Instructions ▸ Stage 2: Feedback

Results

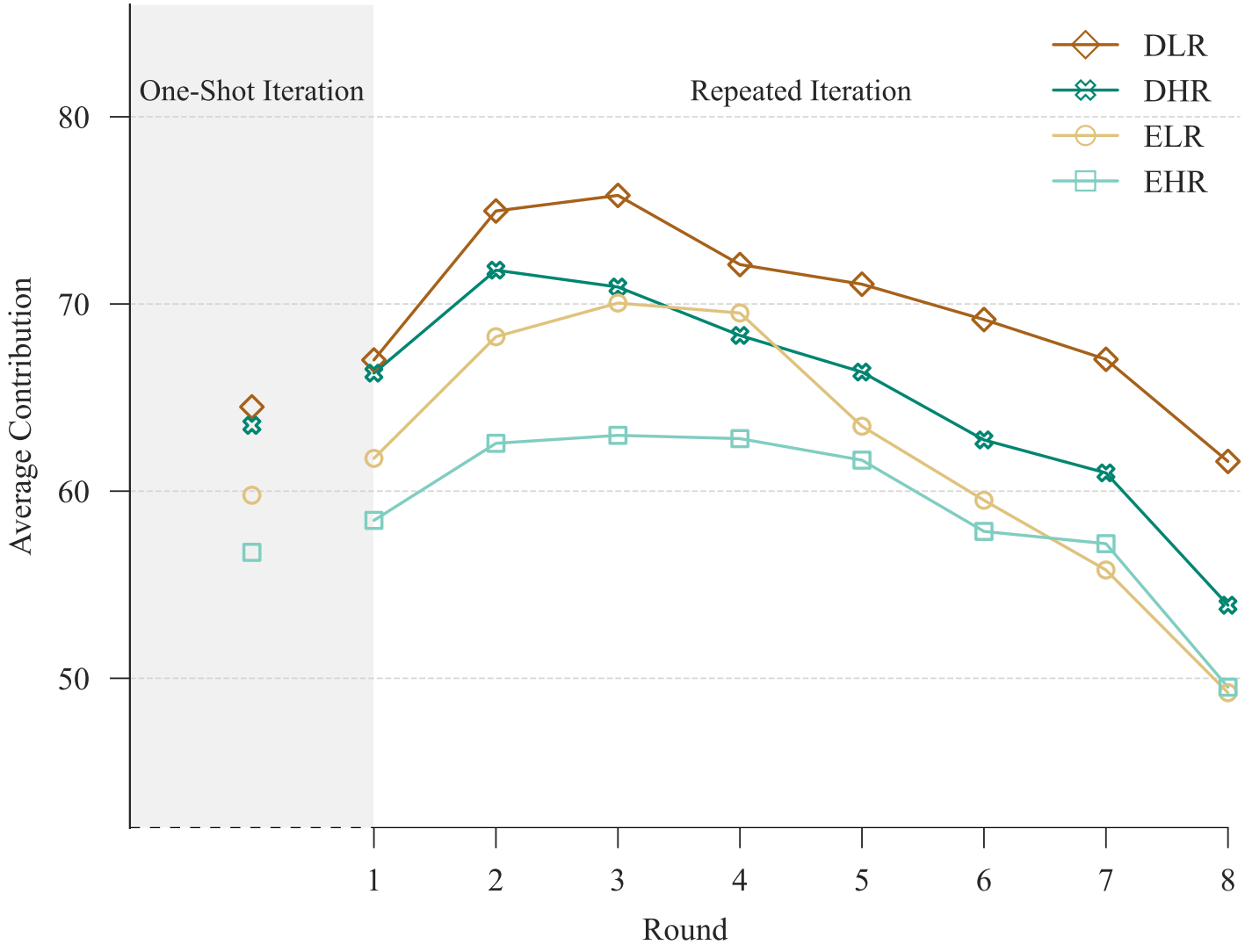
Earnings and Perceived Fairness

Fairness overall judged by the extent of redistribution

▸ Summary Stats ▸ Fairness By Beneficiary Status ▸ Earnings Distributions ▸ Fairness Distributions

Note: Error bars indicate the 95% CI.

Contributions by Treatment



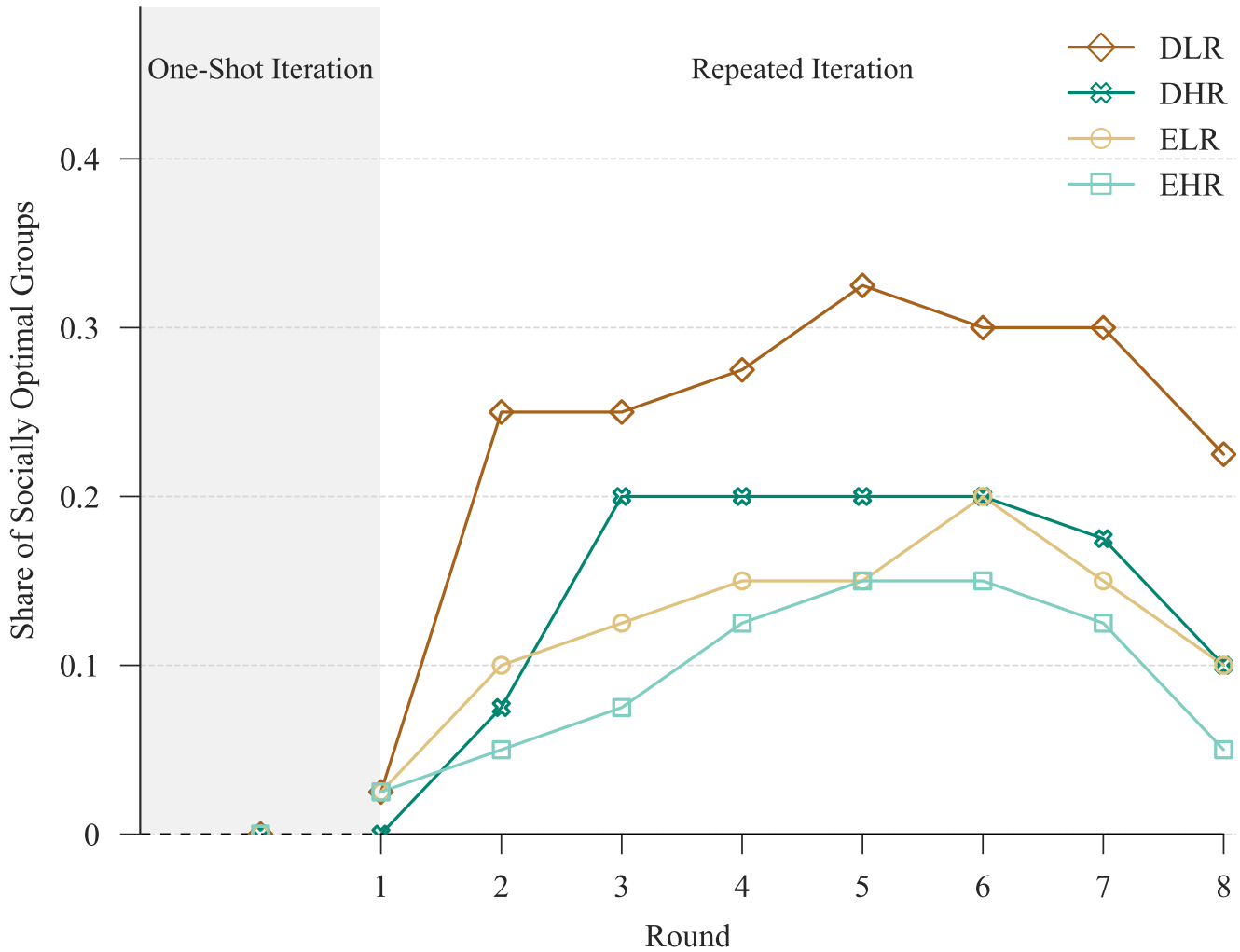
▸ Distributions

Treatment Effects on Contribution

	Contribution				
	Overall		One-Shot Iteration	Repeated Iteration	
				First Half	All
	(1)	(2)	(3)	(4)	(5)
DLR	10.389**	9.892**	7.746**	10.787**	10.161**
	(4.961)	(4.794)	(3.254)	(4.559)	(5.149)
DHR	6.122	6.358	6.990**	8.053*	6.280
	(4.594)	(4.428)	(3.312)	(4.321)	(4.718)
ELR	3.068	2.376	2.420	5.571	2.370
	(4.671)	(4.714)	(3.438)	(4.586)	(5.041)
Perceived Fairness		1.766***	1.021**	1.014**	1.859***
		(0.455)	(0.517)	(0.483)	(0.478)
Pre-Redistribution Earnings		0.010	0.012	0.028	0.010
		(0.048)	(0.051)	(0.050)	(0.050)
Pre-Redistribution Gini		0.092	-0.124	0.099	0.119
		(0.154)	(0.115)	(0.149)	(0.164)
Task Time		-0.547	-0.909**	-0.438	-0.502
		(0.429)	(0.417)	(0.448)	(0.448)
Round		-0.968***		1.498***	-1.664***
		(0.299)		(0.491)	(0.327)
Constant	58.860***	58.557***	62.844***	55.139***	61.728***
	(3.323)	(8.900)	(8.480)	(9.131)	(9.421)
Controls	No	Yes	Yes	Yes	Yes
Observations	5760	5760	640	2560	5120

Note: In all models, the baseline is the EHR treatment. Controls include age, gender, and education. Standard errors clustered at the group level are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

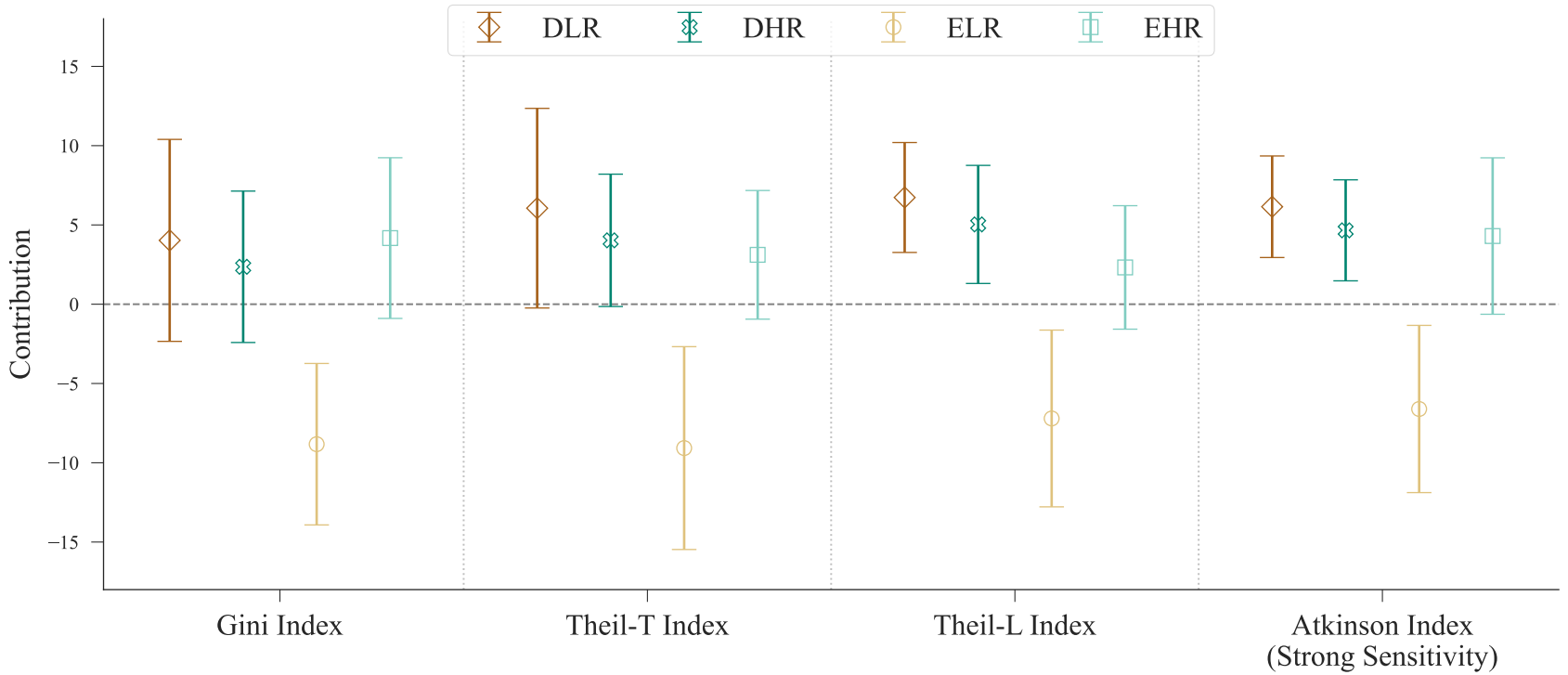
Socially Optimal Groups by Treatment



▸ Regression Analysis

- No significant differences in the prevalence of free-riding

Marginal Effects of Inequality on Contribution



Note: Average marginal effects of various standardised inequality indices on contributions, estimated using a random-effects GLS regression controlling for relevant covariates, with error bars indicating 95% confidence intervals.

▸ Measure Definitions ▸ Means ▸ Distributions ▸ Regression Analysis

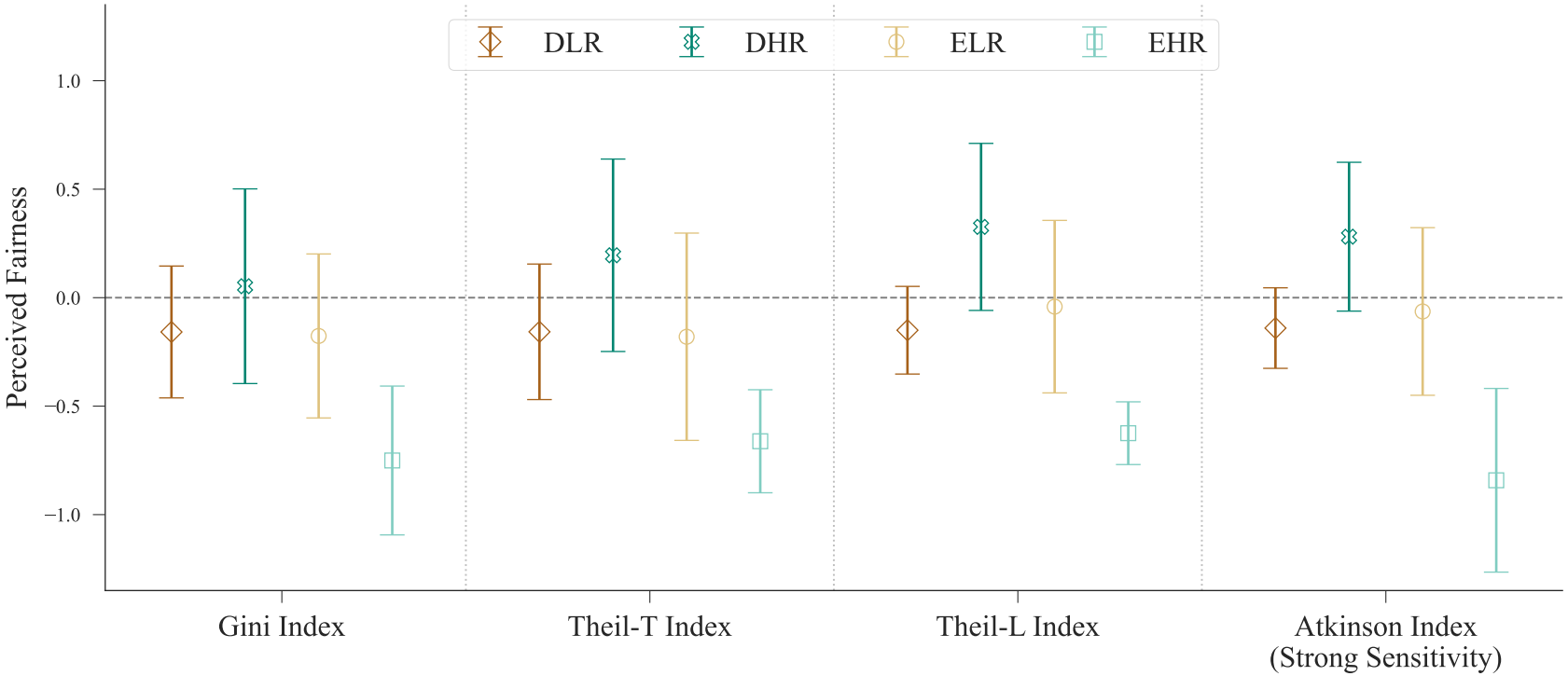
Marginal Effects of Inequality on Contribution

Non-Beneficiaries

Marginal Effects of Inequality on Contribution

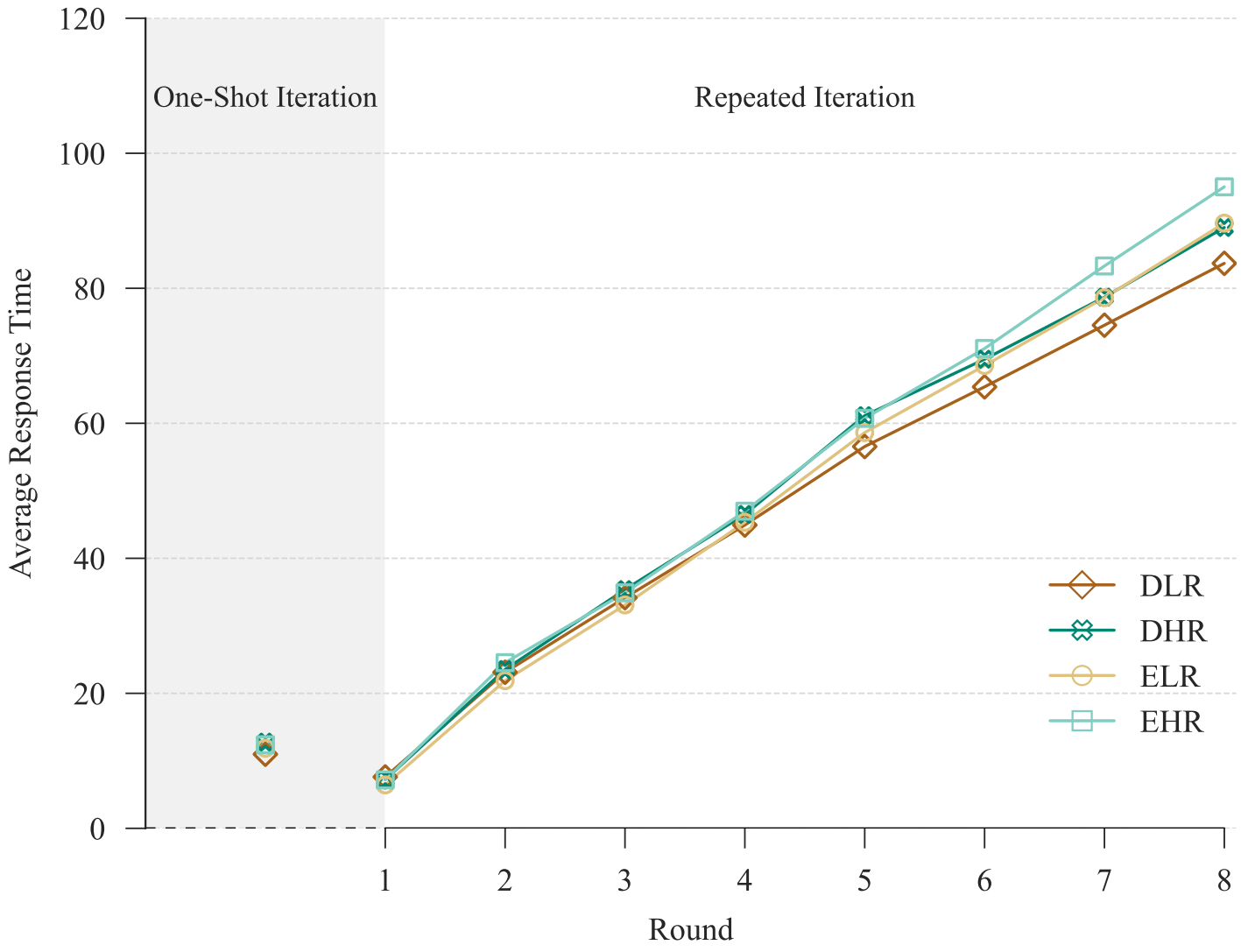
Net Beneficiaries

Marginal Effects of Inequality on Fairness Perception



▸ Regression Analysis

Response Times by Treatment



▸ Distributions ▸ Regression Analysis

Wrapping Up

1. Cooperation is stronger under more demanding regimes with lower redistribution
   - Gains observed at the individual level, group level, and in the speed of cooperation
   - Impacts of inequality emerge when disparities are more pronounced at the low end
2. Perceptions of fairness matter for cooperation
   - Primarily shaped by the extent of redistribution
   - High inequality under high redistribution is acceptable in more demanding regimes

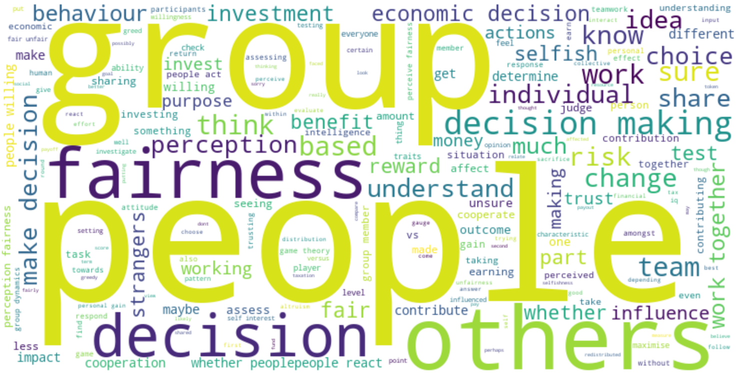
Thanks for your cooperation and attention!

Some comments from our participants

"great game experience - enjoyed it a lot and believe it will inform much abut human nature, behaviour in decision instances, and attitude towards economic rewards"

"To see how you plan things when working in a team - do you look out for yourself, or the greater benefit of the group."

Word Cloud


group
people
fairness
decision
others
decision making
economic decision
investment
behaviour
idea
know
choice
work
sure
share
individual
selfish
actions
different
understanding
perception
based
think
benefit
understand
reward
change
risk
much
test
trust
team
work together
make decision
strangers
fair
whether
influence
contribute
cooperation
whether peoplepeople react
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willing
purpose
sharing
money
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making
people willing
perception fairness
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outcome
earning
taking
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cooperate
unsure
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people act
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return
ability
human
feel
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traits
judge
person
characteristic
amongst
influenced
testing

Appendix

Implementation Details

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- Pre-registered: AEARCTR-0013588
- Dates: June 19–21, 2024
- Platform: Online experiment conducted on Qualtrics
- Participants: 640 participants recruited via Prolific
  - Randomized into four treatment conditions, with 40 groups of 4 participants each (160 participants per condition)
  - To ensure data quality we recruit participants with at least 99% approval rating and included two attention checks
  - UK sample
- Incentives: £1 + [£0, £10.8]
  - Conversion rate: 50 tokens= £1
  - Average payout: £7.59
- Average duration: 35.76 minutes

Summary Stats

Sample Descriptive Statistics

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	Difficult		Easy		Overall	
Variable	LR	HR	LR	HR	Mean	P-value
Age	38.594	38.025	37.469	39.062	38.288	0.743
	(0.957)	(1.005)	(0.934)	(1.004)	(0.487)	
Female	0.425	0.444	0.481	0.438	0.447	0.768
	(0.039)	(0.039)	(0.040)	(0.039)	(0.020)	
Education	2.706	2.562	2.706	2.725	2.675	0.628
	(0.096)	(0.092)	(0.090)	(0.092)	(0.046)	
Pre-Redistribution Earnings	47.375	46.438	62.125	55.062	52.750	< 0.001
	(1.995)	(2.005)	(2.036)	(2.193)	(1.058)	
Task Time	7.991	7.463	7.488	7.045	7.497	0.015
	(0.227)	(0.246)	(0.257)	(0.245)	(0.122)	
Groups	40	40	40	40	160	
Observations	160	160	160	160	640	

Note: Standard errors are reported in parentheses. P-values are based on Kruskal-Wallis tests.

Prior Psychometric Data of the Task

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Question	Easy			Difficult		
	Accuracy		Obs.	Accuracy		Obs.
	Mean	SD		Mean	SD	
1	0.74	0.44	81,787	0.49	0.50	101,810
2	0.61	0.49	80,701	0.41	0.49	79,801
3	0.56	0.50	80,748	0.40	0.49	100,621
4	0.56	0.50	80,530	0.27	0.45	99,874
5	0.54	0.50	80,409	0.29	0.45	99,911
6	0.39	0.49	40,523	0.39	0.49	40,523
7	0.38	0.49	3,305	0.38	0.49	3,305
8	0.37	0.48	3,551	0.24	0.43	3,654
9	0.39	0.49	3,361	0.27	0.45	3,435
10	0.40	0.49	3,455	0.21	0.40	3,573
Overall	0.49			0.34		

Note: Source from Dworak et al. (2021)

Psychometric Data in the Experiment

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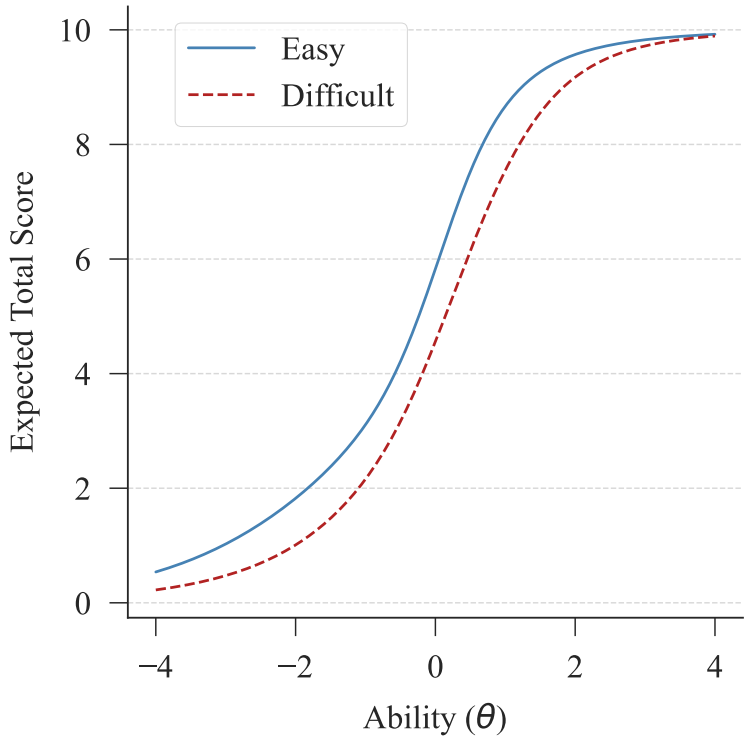
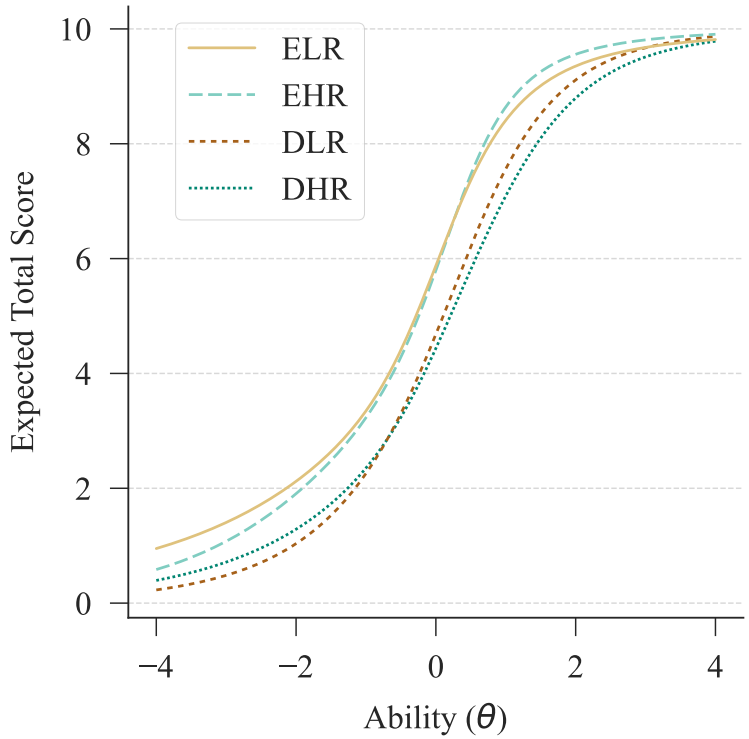


(a) By production difficulty



(b) By treatment condition

Note: Test characteristic curves estimated from two-parameter (difficulty and discrimination) logistic item response theory models. Panel (a) plots expected total scores as a function of latent ability (θ) for the Easy and Difficult conditions. Panel (b) presents the corresponding curves for each of the four treatment groups.

Stage 1 - Instructions

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Part 1 Instructions

In this part, your task is to answer **10** questions. Five of them are about matrix reasoning and the other five are about three-dimensional rotation.

There is a correct answer to each question. For **every correct** response you submit, you will earn **10** experimental tokens. This scheme applies to all group members. You have a maximum of 15 minutes to complete this task.

After all members complete the task, **a tax amount of 50%** of each member's earnings will be collected, pooled, and **evenly distributed** among all four members of the group. For example, if 100 tokens are earned in the task, the tax amount to be paid is 50 tokens. This amount is evenly divided among the group members, meaning that each member receives a redistribution payment of 12.5 tokens.

Your payout in this part is:

$$\text{Your Earning} - \mathbf{50\%} \times \text{Your Earning} + \frac{\mathbf{50\%} \times \text{Total Group Earning}}{4}$$

Feedback Screen for Stage 1

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Part 1 Results Summary

You are Player **B.**

Group Earnings				
A	B	C	D	Total
10	40	0	20	70

Your Payoff Details			
Earning	Tax Amount Paid	Group Redistribution	Your Payoff
40	20	8.75	28.75

Note:

$$\text{Your Payoff} = \text{Your Earning} - \text{Your Tax Amount Paid} + \text{Group Redistribution}$$

$$\text{Your Tax Amount Paid} = \mathbf{50\%} \times \text{Your Earning}$$

$$\text{Group Redistribution} = \frac{\mathbf{50\%} \times \text{Total Group Earning}}{\mathbf{4}}$$

Stage 2- Instructions

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Part 2 Instructions

In this part, you will engage in a game with your group.

Each member starts with **an endowment of 100** units of experimental tokens. Your task is to **invest any amount** in a "group project". You can invest any amount **between 0 and 100**, including 0 and 100. Every group member makes such a decision.

After all individual investment decisions are made, the group's total investment will be **multiplied by 1.6**. The resulting collective return will then be **evenly distributed** among all four members of the group. For example, if 100 tokens are invested in the project, the project's collective return increases to 160 tokens. This amount is evenly divided among the group members, so each member receives a project return of 40 tokens.

Your payout in this part is:

$$100 - \text{Your Investment} + \mathbf{0.4} \times \text{Total Group Investment}$$

The outcome for this part and your corresponding payout will be listed together with the payout from the other parts at the end of the experiment.

Stage 2- Contribution Screen

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You have received 100 units.

Please indicate in the box below how many units to invest in the group project.

Your **investment** in the group project (0 - 100):

Stage 1 - Instructions

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Part 3 Instructions

In this part, you will engage in the same game as in Part 2. This game will be repeated across eight rounds.

Your payoff for each round will be displayed after the round concludes. At the end of the experiment, one of the eight rounds from this part will be randomly selected, with each round having an equal chance of being chosen. Your payout for this part will be determined by your group's decisions in the round that is randomly selected.

To remind you the rules of the game:

1) In each round, each member has an endowment of **100** units of experimental tokens.

2) Your task is to invest any amount in a "group project". You can invest any amount **between 0 and 100**, including 0 and 100. Every group member makes such a decision.

3) After all individual investment decisions are made, the group's total investment will be multiplied by **1.6**. The resulting amount will then be **evenly distributed** among all four members of the group. For example, if 100 tokens are invested in the project, the project's collective return increases to 160 tokens. This amount is evenly divided among the group members, so each member receives a project return of 40 tokens.

4) Your payoff in the game for each round is:

$$100 - \text{Your Investment} + \mathbf{0.4} \times \text{Total Group Investment}$$

Feedback Screen for Stage 2

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Part 3 Results Summary

You are Player **B**.

Group Investments					
Round	A	B	C	D	Total
1	89	45	34	67	235
2	67	23	89	45	224
3	89	67	23	89	268
4	50	50	50	50	200
5	50	50	50	50	200

Your Payoff Details		
Investment	Project Return	Your Payoff
45	94	149
23	89.6	166.6
67	107.2	140.2
50	80	130
50	80	130

Note:

$$\text{Your Payoff} = 100 - \text{Your Investment} + \text{Your Project Return}$$

$$\text{Your Project Return} = \mathbf{0.4} \times \text{Total Group Investment}$$

Fairness Perception

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Now, we would like to understand your perception of fairness regarding your outcomes in Part 1.

A rating of **0** indicates that you perceive the outcome as **completely unfair**, while a rating of **10** indicates that you view the outcome as **perfectly fair.** Please select a number between 0 and 10 that best reflects your feelings about your outcomes in Part 1. Below is a summary of the results from Part 1.

Part 1 Results Summary

You are **Player B.**

Group Earnings				
A	B	C	D	Total
10	40	0	20	70

Your Payoff Details			
Earning	Tax Amount Paid	Group Redistribution	Your Payoff
40	20	8.75	28.75

Note:

$$\text{Your Payoff} = \text{Your Earning} - \text{Your Tax Amount Paid} + \text{Group Redistribution}$$

$$\text{Your Tax Amount Paid} = \mathbf{50\%} \times \text{Your Earning}$$

$$\text{Group Redistribution} = \frac{\mathbf{50\%} \times \text{Total Group Earning}}{\mathbf{4}}$$

How fair do you perceive your outcomes in Part 1 to be?

Very unfair **Very fair**

0 1 2 3 4 5 6 7 8 9 10

Fairness

Sample Descriptive Statistics

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	Difficult		Easy		Overall	
Variable	LR	HR	LR	HR	Mean	P-value
Age	38.594	38.025	37.469	39.062	38.288	0.743
	(0.957)	(1.005)	(0.934)	(1.004)	(0.487)	
Female	0.425	0.444	0.481	0.438	0.447	0.768
	(0.039)	(0.039)	(0.040)	(0.039)	(0.020)	
Education	2.706	2.562	2.706	2.725	2.675	0.628
	(0.096)	(0.092)	(0.090)	(0.092)	(0.046)	
Pre-Redistribution Earnings	47.375	46.438	62.125	55.062	52.750	< 0.001
	(1.995)	(2.005)	(2.036)	(2.193)	(1.058)	
Task Time	7.991	7.463	7.488	7.045	7.497	0.015
	(0.227)	(0.246)	(0.257)	(0.245)	(0.122)	
Groups	40	40	40	40	160	
Observations	160	160	160	160	640	

Note: Standard errors are reported in parentheses. P-values are based on Kruskal-Wallis tests.

Distributions of Pre-Redistribution Earnings by Treatment

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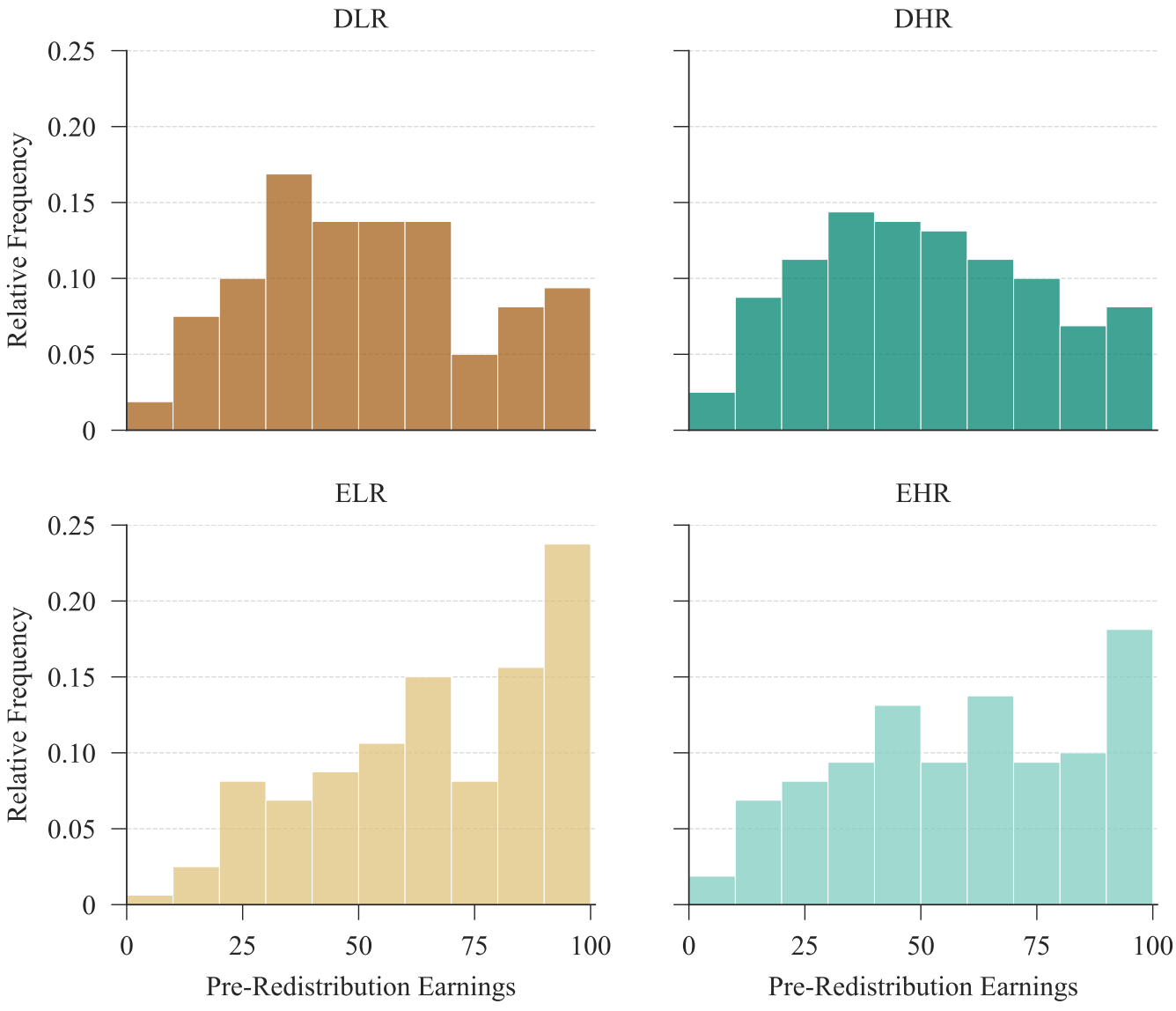

Distributions of Perceived Fairness by Treatment

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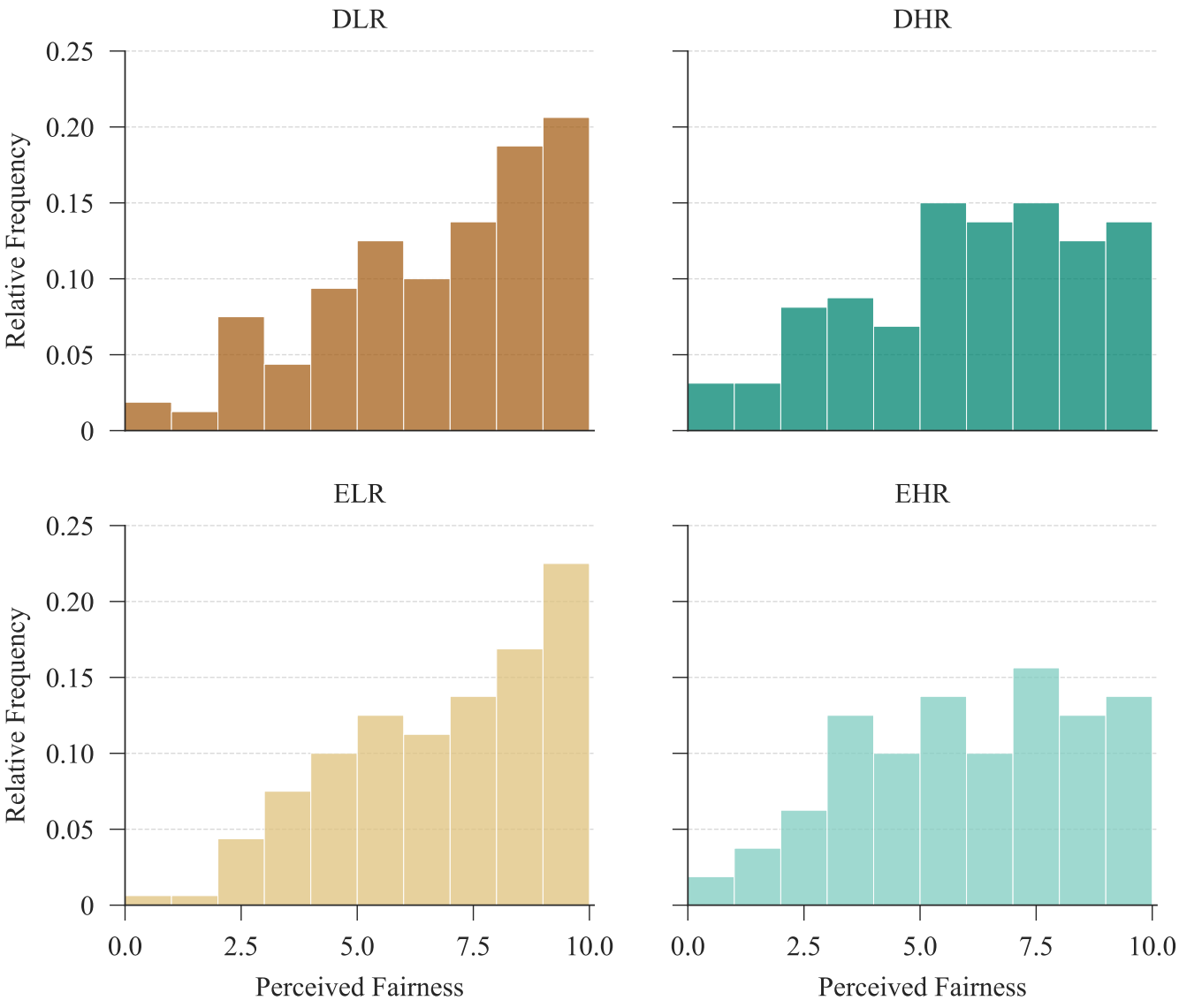

Distributions of PPG Contribution by Treatment

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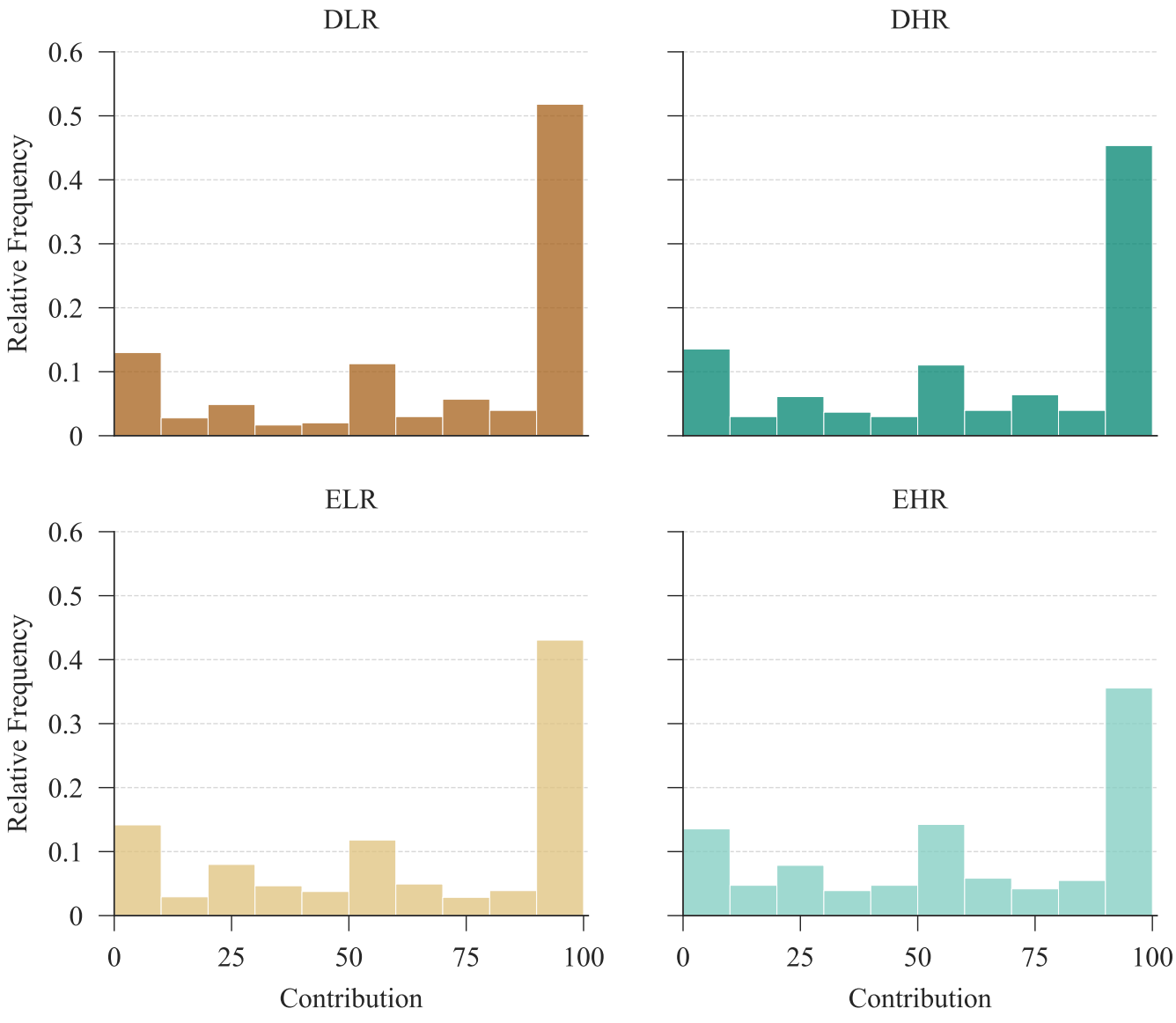

Distributions of Response Time by Treatment

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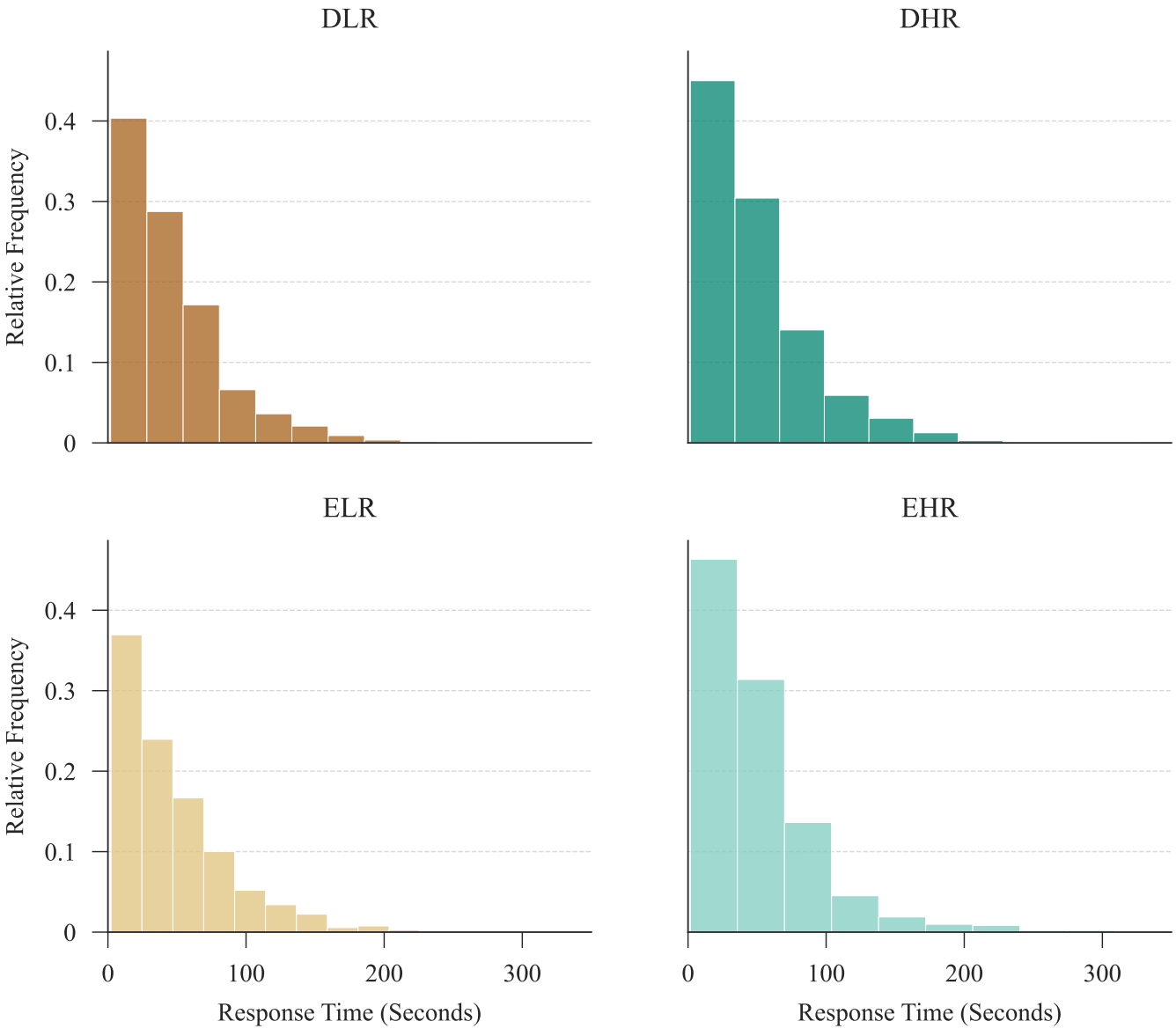

Perceived Fairness by Benefiacry Status

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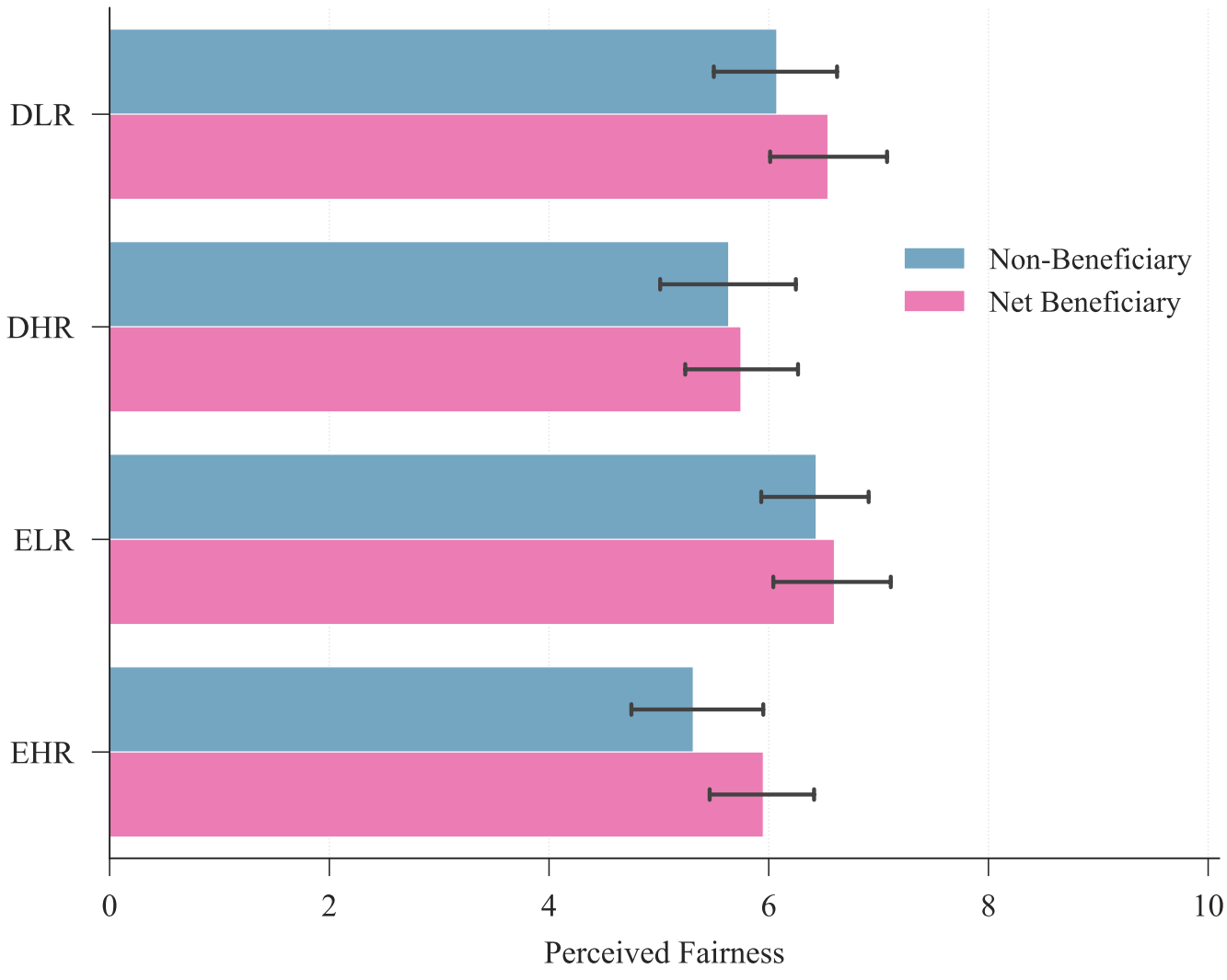

Treatment Effects on Contribution

Back

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Pre-Redistribution Earnings		0.010	0.012	0.028	0.010
		(0.048)	(0.051)	(0.050)	(0.050)
Pre-Redistribution Gini		0.092	-0.124	0.099	0.119
		(0.154)	(0.115)	(0.149)	(0.164)
Task Time		-0.547	-0.909**	-0.438	-0.502
		(0.429)	(0.417)	(0.448)	(0.448)
Round		-0.968***		1.498***	-1.664***
		(0.299)		(0.491)	(0.327)
Constant	58.860***	58.557***	62.844***	55.139***	61.728***
	(3.323)	(8.900)	(8.480)	(9.131)	(9.421)
Controls	No	Yes	Yes	Yes	Yes
Observations	5760	5760	640	2560	5120

Note: In all models, the baseline is the EHR group. Controls include age, gender, and education. Standard errors clustered at the group level are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Treatment Effects on Group Outcomes

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	Socially Optimal		With Any Free-Rider	
	(1)	(2)	(3)	(4)
DLR	3.043**	3.322**	0.835	1.010
	(1.498)	(1.888)	(0.303)	(0.399)
DHR	1.611	2.036	1.200	1.306
	(0.843)	(1.227)	(0.404)	(0.456)
ELR	1.375	0.904	1.186	1.184
	(0.745)	(0.480)	(0.399)	(0.446)
Perceived Fairness		1.529***		0.803**
		(0.230)		(0.080)
Gini Index		0.992		0.976
		(0.024)		(0.016)
Pre-redistribution Earnings		1.017		1.011
		(0.017)		(0.011)
Effort Time		0.902		0.992
		(0.075)		(0.072)
Round		1.213***		1.181***
		(0.030)		(0.030)
Observations	1440	1440	1440	1440

Note: Odd ratios from logistic regressions. The baseline for all models is the EHR group. Standard errors clustered at the group level are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Prevalence of Free-Riding

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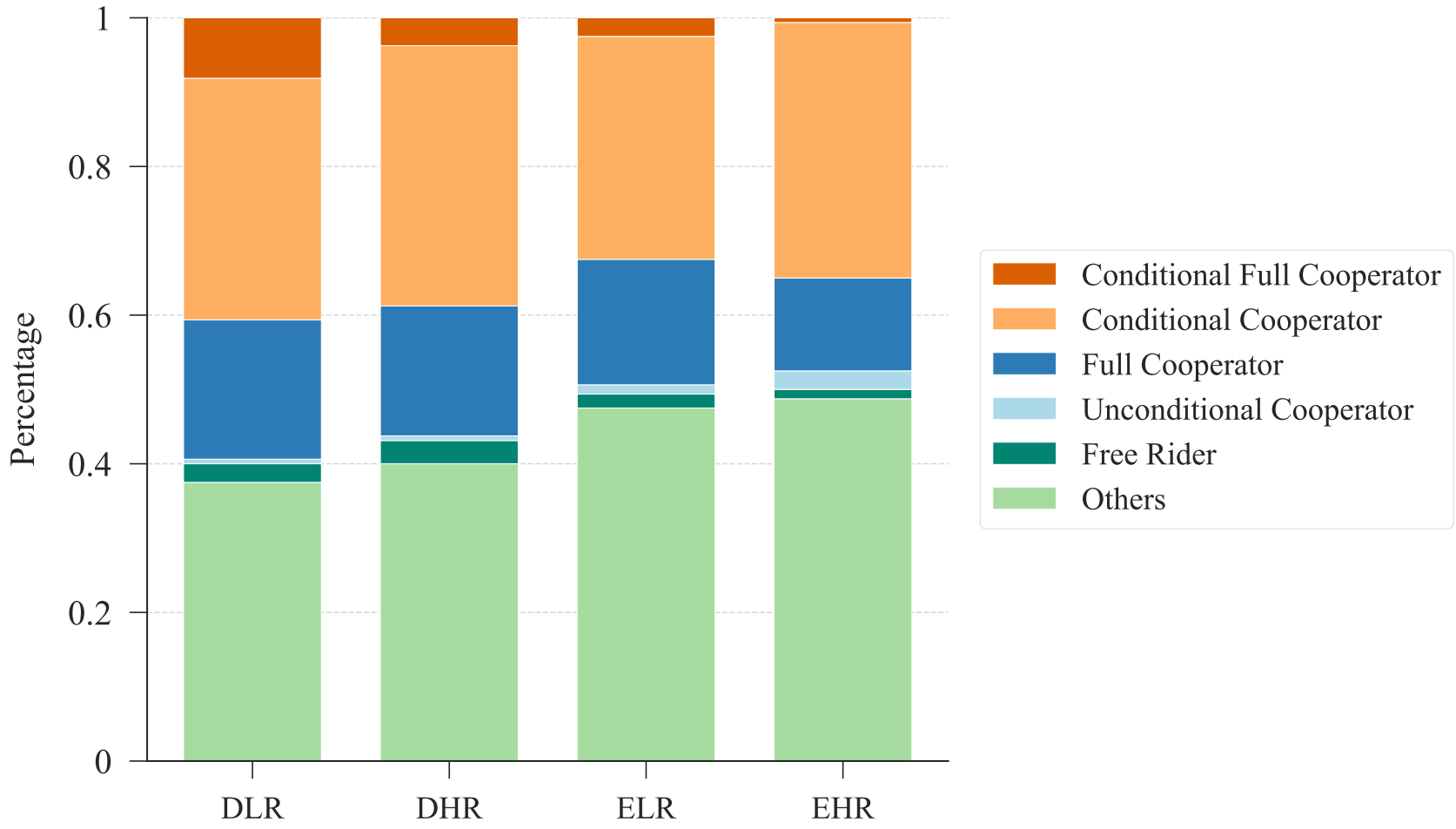
Cooperation Profiles by Treatment

Back



Measuring Inequality

Back

Measure	Distributional Sensitivity	Formula
Gini Index	Uniform across distribution	$\frac{\sum_{i,j} \lvert x_i - x_j \rvert}{2n^2\mu}$
Theil-T Index (entropy index)	Upper-end (top incomes)	$\frac{1}{n}\sum_{i=1}^{n} \frac{x_i}{\mu} \ln\left(\frac{x_i}{\mu}\right)$
Theil-L Index (mean log deviation)	Lower-end (bottom incomes)	$\frac{1}{n}\sum_{i=1}^{n} \ln\left(\frac{\mu}{x_i}\right)$
Atkinson Index $(0 \leq \epsilon \neq 1)$	Lower-end, governed by ϵ	$1 - \left(\frac{1}{n}\sum_{i=1}^{n}\left(\frac{x_i}{\mu}\right)^{1-\epsilon}\right)^{\frac{1}{1-\epsilon}}$
Atkinson Index $(\epsilon = 1)$	Strong lower-end sensitivity	$1 - \left(\prod_{i=1}^{n} \frac{x_i}{\mu}\right)^{\frac{1}{n}}$

Note: The Atkinson Index incorporates a parameter ϵ that represents the aversion to the inequality of the lower end.

Inequality Across Treatments

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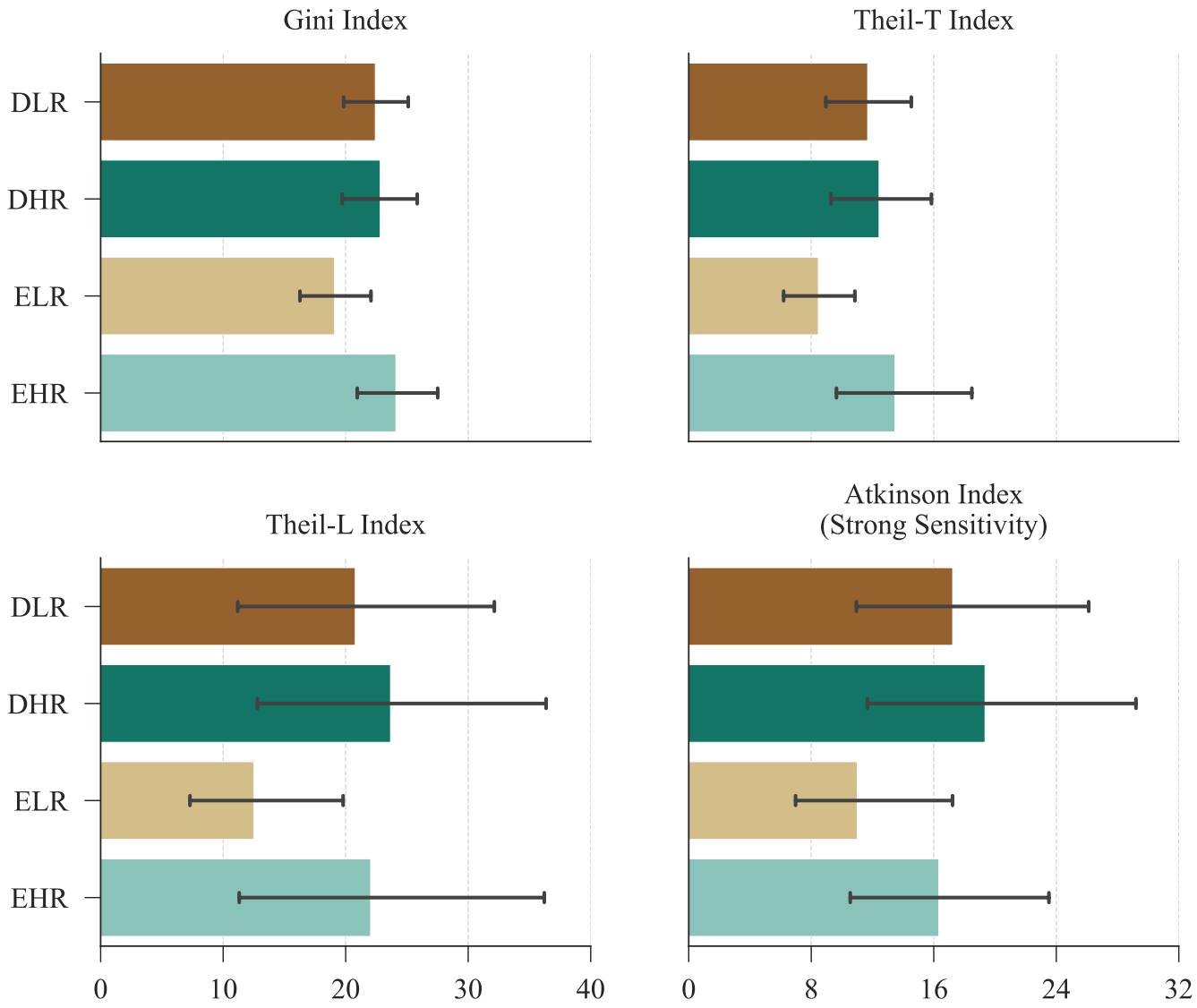
Mean values of pre-redistribution inequality measures



Note: Error bars indicate the 95% CI.

Inequality Across Treatments

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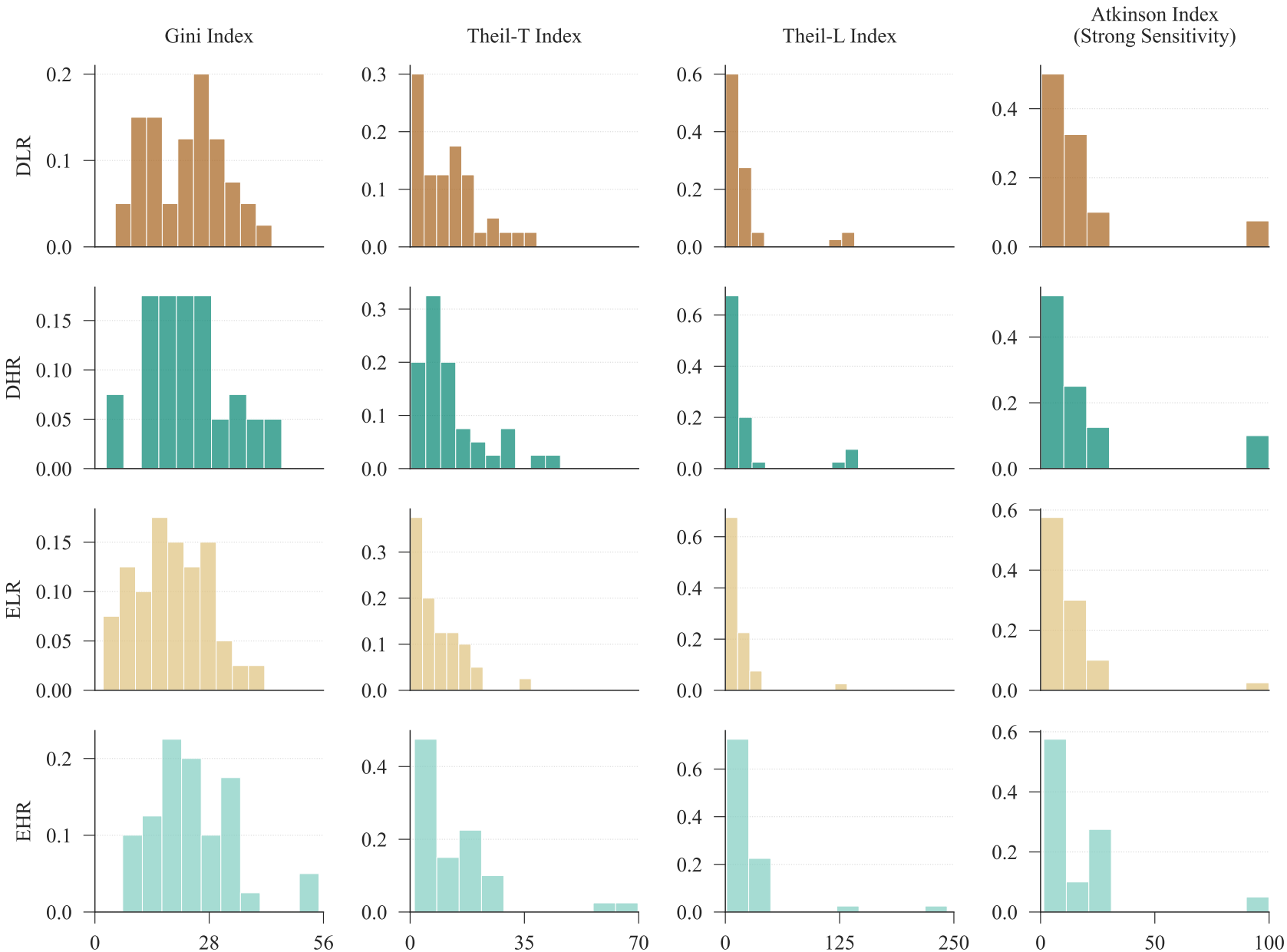
Distributions of pre-redistribution inequality measures



Impact of Inequality on Fairness Perception

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	Perceived Fairness						
				Atkinson Index (Varying Sensitivities)			
	Gini Index	Theil-T Index	Theil-L Index	Mild	Moderate	Strong	Severe
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Inequality	-0.076***	-0.062***	-0.018***	-0.213***	-0.089***	-0.037***	-0.034***
	(0.018)	(0.011)	(0.002)	(0.035)	(0.014)	(0.009)	(0.008)
LR × Inequality	0.058**	0.045*	0.017***	0.159*	0.070**	0.034***	0.027**
	(0.025)	(0.025)	(0.006)	(0.084)	(0.034)	(0.012)	(0.012)
Difficult × Inequality	0.081***	0.081***	0.027***	0.287***	0.124***	0.049***	0.043***
	(0.028)	(0.023)	(0.006)	(0.078)	(0.031)	(0.012)	(0.012)
Difficult × LR × Inequality	-0.080**	-0.078**	-0.030***	-0.285**	-0.127***	-0.052***	-0.041***
	(0.038)	(0.036)	(0.009)	(0.122)	(0.048)	(0.015)	(0.016)
LR	-0.540	0.256	0.564*	0.307	0.357	0.378	0.161
	(0.584)	(0.366)	(0.310)	(0.354)	(0.340)	(0.323)	(0.368)
Difficult	-1.965***	-1.072***	-0.610*	-1.018***	-0.943***	-0.833**	-1.187***
	(0.659)	(0.383)	(0.322)	(0.368)	(0.351)	(0.337)	(0.391)
Difficult × LR	1.644*	0.766	0.366	0.726	0.668	0.584	0.846
	(0.900)	(0.570)	(0.451)	(0.546)	(0.516)	(0.469)	(0.551)
Constant	7.702***	6.687***	6.176***	6.602***	6.504***	6.385***	6.715***
	(0.651)	(0.518)	(0.496)	(0.511)	(0.505)	(0.509)	(0.539)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	640	640	640	640	640	640	640

Note: In all models, the baseline is the EHR group. Controls include age, gender, education, perceived fairness, task performance, and effort time. Standard errors clustered at the group level are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Impact of Inequality on Contribution

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	Contribution						
				Atkinson Index (Varying Sensitivities)			
	Gini Index	Theil-T Index	Theil-L Index	Mild	Moderate	Strong	Severe
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Inequality	0.423	0.293	0.066	0.951	0.383	0.187*	0.164
	(0.262)	(0.195)	(0.057)	(0.673)	(0.284)	(0.110)	(0.116)
LR × Inequality	-1.318***	-1.146***	-0.273***	-3.804***	-1.504***	-0.475***	-0.419***
	(0.371)	(0.365)	(0.101)	(1.266)	(0.525)	(0.163)	(0.160)
Difficult × Inequality	-0.183	0.086	0.078	0.475	0.247	0.016	0.027
	(0.362)	(0.279)	(0.078)	(0.952)	(0.388)	(0.130)	(0.139)
Difficult × LR × Inequality	1.486***	1.337***	0.322**	4.477***	1.774***	0.540***	0.471**
	(0.559)	(0.518)	(0.126)	(1.732)	(0.682)	(0.193)	(0.202)
LR	29.155***	13.025*	5.971	11.655*	10.121	8.090	11.393
	(10.546)	(6.738)	(5.283)	(6.480)	(6.175)	(5.711)	(6.942)
Difficult	10.804	5.387	4.180	4.752	4.381	5.300	5.234
	(10.230)	(6.231)	(5.046)	(6.014)	(5.765)	(5.464)	(6.591)
Difficult × LR	-29.421*	-11.555	-3.131	-10.003	-8.149	-5.368	-8.992
	(15.622)	(10.097)	(7.672)	(9.621)	(9.040)	(8.121)	(9.731)
Constant	49.775***	55.591***	58.073***	56.025***	56.418***	55.895***	54.753***
	(11.014)	(8.454)	(7.776)	(8.316)	(8.185)	(8.149)	(8.863)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5760	5760	5760	5760	5760	5760	5760

Note: In all models, the baseline is the EHR group and inequality indices are standardised. Controls include age, gender, education, perceived fairness, task performance, effort time, and round. Standard errors clustered at the group level are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Treatment Effects on Response Time

▸ Figure ▸ Conclusion

	Response Time		Contribution Time		Feedback Time	
	(1)	(2)	(3)	(4)	(5)	(6)
DLR	-3.902	-7.139**	-0.790*	-1.211***	-4.000	-7.621**
	(3.146)	(2.893)	(0.448)	(0.450)	(3.764)	(3.465)
DHR	-1.377	-3.569	-0.497	-0.811*	-1.131	-3.546
	(3.170)	(2.895)	(0.493)	(0.481)	(3.789)	(3.476)
ELR	-2.452	-1.131	-0.915**	-0.727*	-1.977	-0.519
	(3.282)	(2.742)	(0.438)	(0.381)	(3.936)	(3.324)
Fairness Score		0.123		0.028		0.122
		(0.340)		(0.054)		(0.413)
Inequality		0.147		0.017		0.168
		(0.092)		(0.016)		(0.111)
Pre-Redistribution Earnings		-0.203***		-0.029***		-0.224***
		(0.034)		(0.006)		(0.040)
Task Time		2.044***		0.223***		2.341***
		(0.313)		(0.051)		(0.371)
Round		10.667***		-0.587***		11.187***
		(0.304)		(0.046)		(0.340)
Constant	48.456***	-19.925***	6.848***	8.920***	53.496***	-31.859***
	(2.309)	(6.110)	(0.389)	(0.887)	(2.732)	(7.637)
Controls	No	Yes	No	Yes	No	Yes
Observations	5760	5760	5760	5760	4480	4480

Note: In all models, the baseline is the EHR group. Controls include age, gender, and education. Standard errors clustered at the group level are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.