Social Position and Fairness Views

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Long-standing topics in Social Sciences

Social status and fairness of inequality

Political Econ Theory and Optimal Tax Theory

Relative income and income positions important for fairness
considerations and the design of tax and redistribution policy

RESEARCH QUESTIONS

1: How well do people know social positions of themselves and others?

2: To what extent do their views on (un)fairness of inequality depend on their social position?

3: How do they view fairness of inequality within different reference groups and are they better or less informed about inequality and social position where it matters the most?

UNIQUE METHODOLOGY

Link Subjective & Objective Info for Large, Representative Sample of the Danish Population

- **Subjective**: Survey & information experiment, eliciting perceptions about income positions and fairness views
- **Objective**: Admin records with detailed info about income (on tax return), income positions, income histories, shocks (unemployment, disability, health, promotion), reference groups

Conceptually:

- **Income**: Gross income as reported on tax return and verifiable via admin data
- **Social position**: percentile position in income distribution within your cohort (not within population)
- **Position within reference groups**: percentile position in income distribution within cohort + same gender, education, sector, municipality, (+ neighbors, co-workers, former schoolmates, family).
- **Impact analysis**: Effects of shocks to social position on fairness views

Social position within cohort neutralizes life-cycle effects
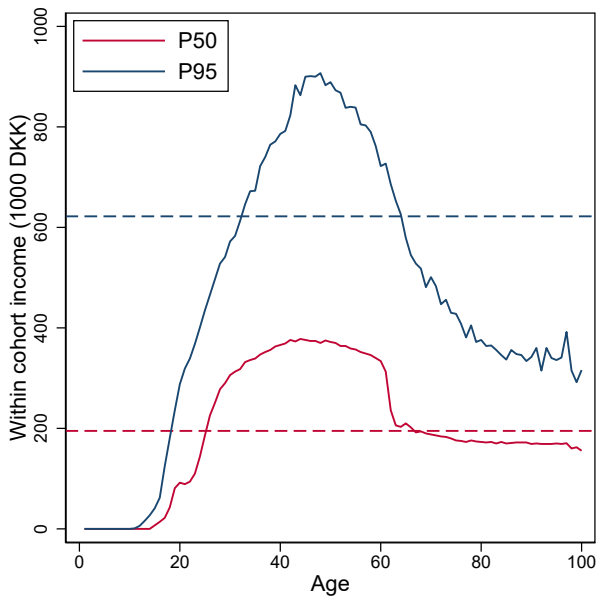
SURVEY OUTLINE

1. Consent
2. Background

   birth year, sex, municipality, education level, sector & political views
3. Your income

   ask about income as it appear on tax return (salaries, transfers, self-employment income, other personal income): Well-defined, easy-to-understand concept that can be checked against true income on the tax return
4. Perceptions about income position

   explainer video of what distribution & positions are

   elicit shape of income distribution (p50 & p95) + your position in distribution

   within cohort (overall social position) and within reference groups
5. Information treatment
6. Outcomes
7. Conclusion

SURVEY METHOD

Distributed through "Digital Post", an online mail box used for communication with public authorities such as the tax or health authorities

Invitations to participate sent to a random sample of 50,000 prime-age people (cohorts 1969-1973) whose contact information was provided by Statistics Denmark. Enables us to link survey responses to register data through personal identifier (CPR)

Advantage: Know characteristics of full target population (cohorts) and of those getting invitations/participating in the survey

Those who completed the survey were enrolled in a lottery for 100 gift cards of 1,000 DKK

‣ Summary statistics

‣ Attrition analysis

Large Reference Groups

Cohort	People born the same year (overall social position)
Sex	People born the same year and of same sex
Municipality	People born the same year currently living in the same municipality
Educational level	People born the same year with the same level of education: basic school, upper secondary education, vocational education and training, short cycle higher education, bachelor degree and master or PhD degree. We use the Danish DISCED education classification, which follows the international education classification ISCED.
Sector of work	People born the same year and working in the same sector: Construction, real estate, business services, finance and insurance, trade and transport, manufacturing, information and communication, culture, agriculture, public work. We use the Danish Sector Codes DB07 which is a sub-classification of the NACE classifications of the EU.

Small Reference Groups

Schoolmates	People born the same year who went to the same school the year they turned 15.
Co-workers	People working in the same workplace. We define a workplace as a single address entity, e.g. for a firm with multiple locations, each location is a separate workplace.
Neighbors	For people living in an apartment, the neighbors are people from age 25 to 65 who live in the same stairwell. For people living in a house, the neighbors are people from age 25 to 65 who live on the same road.

Eliciting the Cohort Median Income (P50)

What do you think the income for **P50** was in 2017 for individuals born in 1971?

Remember that P50 is the income, where half have an income that is the same as or lower than this income, and half have an income that is higher than this income.

Remember also that income is before tax for the whole of 2017 and consists of salary, net profit from self-employment, other business income, unemployment benefits, transfers and payments from private and public pensions.

Note: Please state your answer in **entire thousand DKKs**. If you enter 1 it corresponds to 1,000 DKK.

[   ] thousand DKK

Eliciting the Median (P50) in Reference Groups

We will now ask you what you think the before tax income for **P50** was in 2017 for the groups below, which you are a part of. The first slider shows your answer from the previous question. You can use the other sliders to select, what you think the income was for P50 for the different groups of **people, who were born the same year as you.**

P50 for people **born in 1971**

400.000

P50 for **men** born in 1971

20.000

P50 for people who also lived in **Københavns municipality**

20.000

P50 for people who also had the educational level **Master or PhD program**

20.000

P50 for people who also worked in the sector **Public administration, teaching and health**

20.000

Eliciting Perceived Own Position

Your position among all people **born in 1971**

You previously reported that you had a yearly income in 2017 of 350,000 DKK before tax. We will now ask you to report where you think this income placed you on the income ladder in 2017 for people, who were born in 1971. Use the slider to select your position. Later, we will inform you about your true position.

P95

P50

Place yourself:
P1
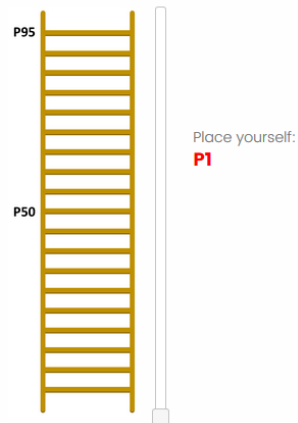
Small Reference Groups: Size and Position

Think about your coworkers in the beginning of 2017. By coworkers we mean the people who had the same workplace as you in the begging of 2017. A workplace usually has the same address so if you for instance worked in a chain store then your coworkers are those who worked in the same store as you and **not** all the people who were employed in the same firm.

How many people worked in your workplace in the beginning of 2017 incl. you? If you do not remember the exact number then report your best guess.

50

Imagine that we rank you and your coworkers by your incomes in 2017 such that the person with the lowest income is number 1 and the person with the highest income is number 50. What do you think your position was in this rank in 2017?

50

Place yourself:
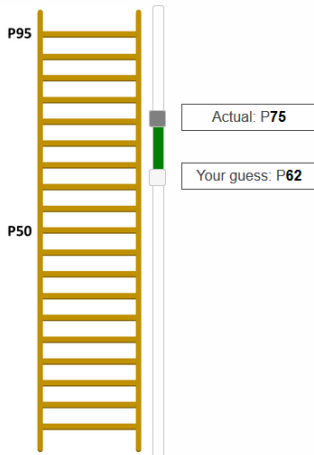**Number 1 out of 50 in my workplace.**

1

Information Treatment

Negative Misperception

Rank among all people born in 1970
You GUESSED that you were on position P**62**.
Based on the income you reported, your TRUE position is P**75**.
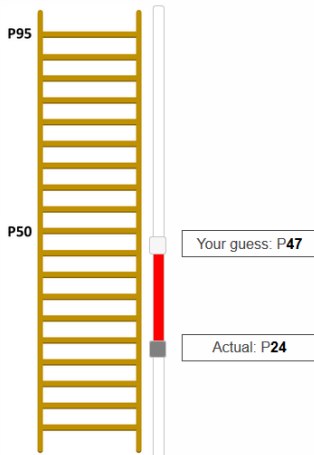You are actually 13 positions higher on the ladder than you thought.

P95

P50

Actual: P**75**

Your guess: P**62**

Positive Misperception

Rank among all people born in 1970
You GUESSED that you were on position P**47**.
Based on the income you reported, your TRUE position is P**24**.
You are actually 23 positions lower on the ladder than you thought.

P95

P50

Your guess: P**47**

Actual: P**24**

Main Outcome Questions

Fairness: *"Do you think that it is fair or unfair on a scale from 1 to 7 that there are differences in income among people born the same year as you within the following reference groups that you are a part of yourself?"*

Role of effort: *"Now, think about people born the same year as you within your reference groups (see below). Indicate on a scale from 1 to 7 for each reference group to what extent you think differences in income are caused by differences in peoples' efforts in life or caused by differences in luck?"*

Political view: *"How would you describe your attitude towards economic policy? [Very left-wing; Left-wing; Moderate; Right-wing; Very right-wing]"*

ANSWER Q1:
Systematic misperceptions of positions... but misperceptions not large

People underestimate overall inequality: believe others are closer to themselves than they really are

People in lower part of distribution underestimate p50 and p95 + overestimate own position (vice versa in the upper part)

Median cohort income level: (i) 45% correct within a 10% error band (compare to 70% correctly predicting own income on tax return). (ii) Botton underestimate and top overestimate... but average prediction error below 5 percent at all income positions.

Larger misperceptions of own position... but small after correcting for "mean reversion"

ANSWER Q2:
People's current social position strongly affects their fairness views

Contemporaneous correlation: From bottom to top income position associated with a one-standard deviation decrease in perceived unfairness

Historic positions: Unfairness view strongly related to current social position compared to past social positions

Quasi-experimental: Negative and positive shocks to social position (unemployment, disability, hospitalization, promotion) $\Rightarrow$ strong effect on unfairness

Information experiment (tell true social position): Changes in perceived position $\Rightarrow$ strong effect on unfairness

Compare to political views: Fairness views more strongly related to current social position than political views, which are more related to social positions in the past and of parents

ANSWER Q3:
Inequalities within co-workers & same education considered
most unfair & are *much bigger* than people think

People view inequality within their education group and between colleagues in their sector as more unfair than inequality within their cohort, between people of their gender and people living in their municipality.

On average people's perceptions of P50 of their overall cohort, gender, municipality, education group and sector of work are quite accurate.

On average people's perceptions of P95 of their overall cohort, gender and municipality are quite accurate... but they systematically underestimate p95 of their education group and sector.

Lower-income people overestimate their own position mostly within their education group, within their sector and within co-workers of their firm.

Related Literature

Effects of Relative vs Absolute Income: Duesenberry (1949); Easterlin (1974, 1995); Clark and Oswald (1996); McBride (2001); Blanchflower and Oswald (2004); Luttmer (2005); Alpizar *et al.* (2005); Ferrer-i Carbonell (2005); Dynan and Ravina (2007).

Knowledge about Own Position in Income Distribution: Cruces, Perez-Truglia, and Tetaz(2013); Karadja, Mollerstrom, and Seim (2017);Fehr, Mollerstrom, and Perez-Truglia (2019); Perez-Truglia (2020).

Perceptions and Impacts of Within-Firm Wage Differences: Cullen and Perez-Truglia (2018); Card, Mas, Moretti, and Saez (2012); Baker, Halberstam, Kroft, Mas, and Messacar (2019).

Online Experiments and Lab Work on Attitudes toward Fairness: Fehr and Schmidt (2006), Fehr and Gachter (2000), Cappelen, Hole, Sorensen, Tungodden (2007), Cappelen, Konow, Sazresnsen, Tungodden (2013), Wienzerl (2014, 2017); Lockwood and Wienzerl (2015); Kuziemko, Norton, Saez, and Stantcheva (2015); Alesina, Stantcheva, and Teso (2018); Stantcheva (2020); Alesina, Miano, and Stantcheva (2020); Cappelen, Falch, Tungodden (2020), Almas, Cappelen, Tungodden (2020).

Role of History and Personal Experience in Shaping Views: Giuliano and Spilimbergo (2014); Roth and Wohlfart (2018).
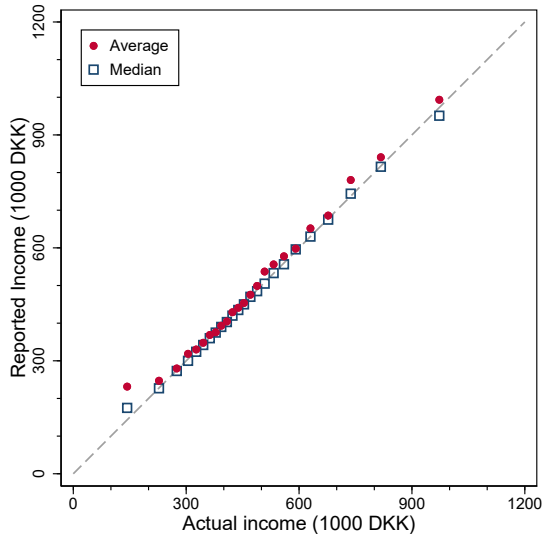
Perceptions of Social Positions

Actual and Reported Income
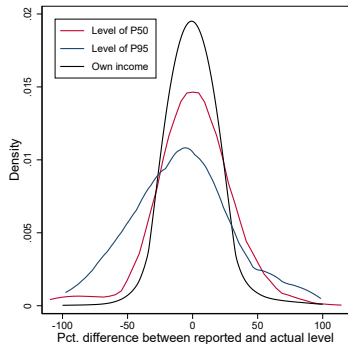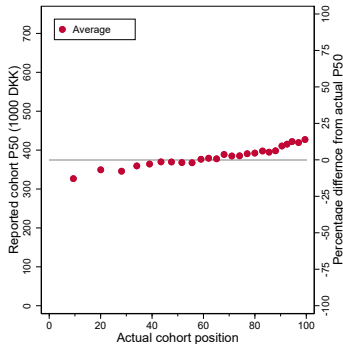
Relative Difference
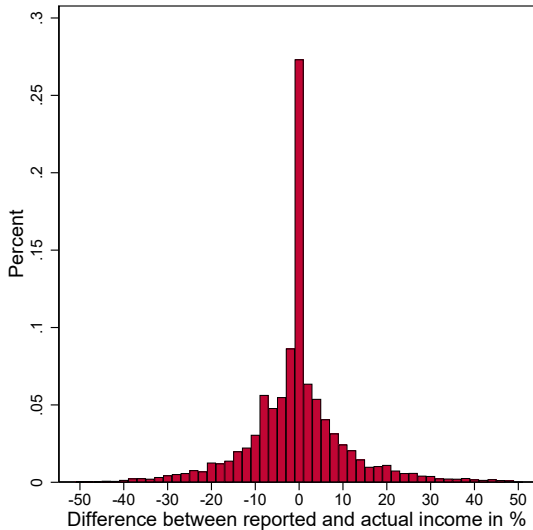
Correlation

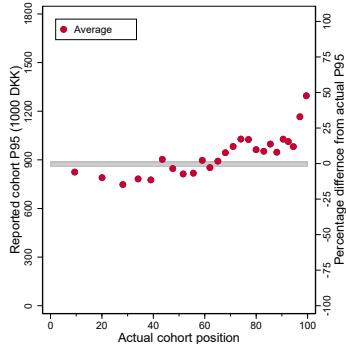# Misperception of Cohort P50 and P95 by Own Position

Size of Misperceptions

P50 Misperception
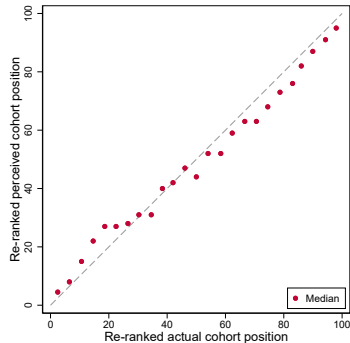

P95 Misperception
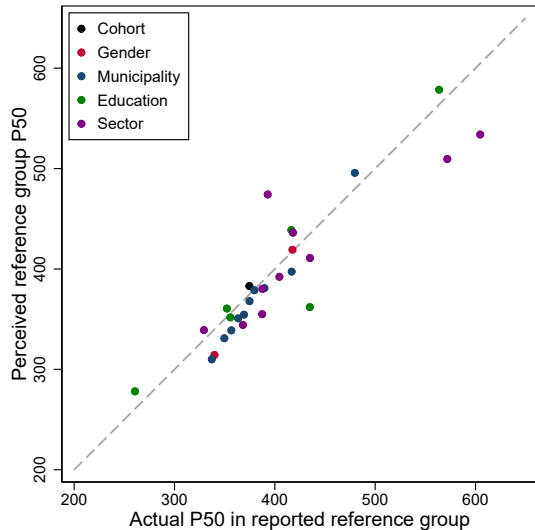
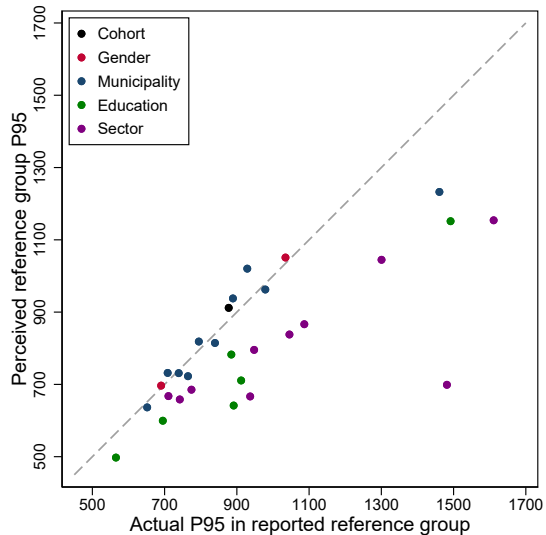# Perception of Own Position

Average
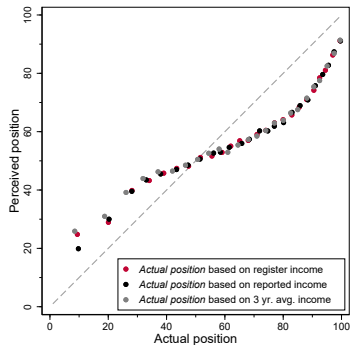
Median
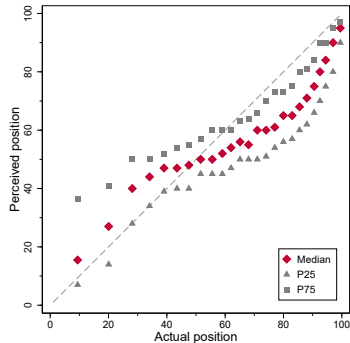
Re-ranked
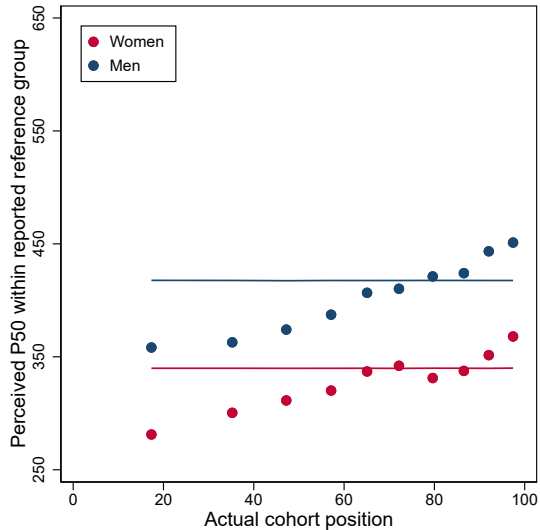
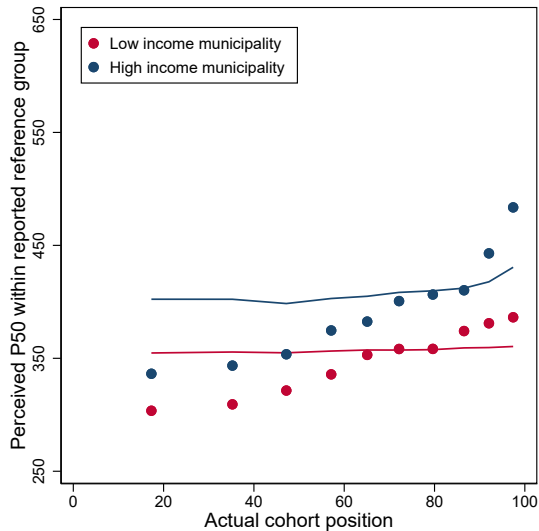**Perceived P50 and P95 by Reference Groups**

P50

P95

Perceived Median within Large Reference Group I

Gender
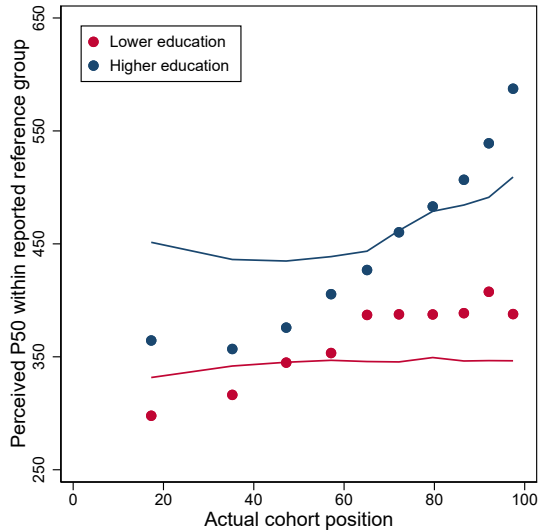

Municipality

Perceived Median within Large Reference Group II

Educational Level

Sector
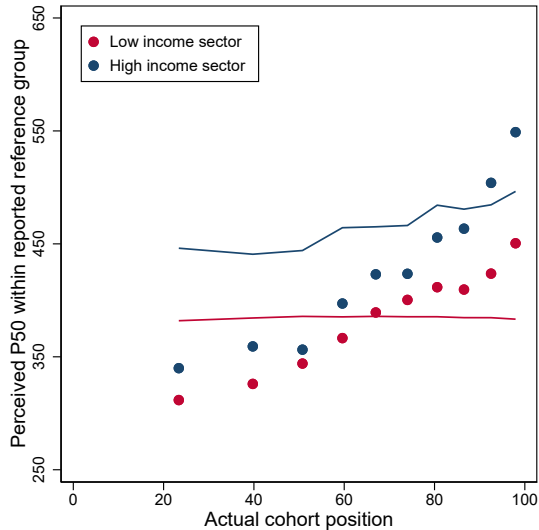
Own Position Perceptions Across Reference Groups

by ref group position
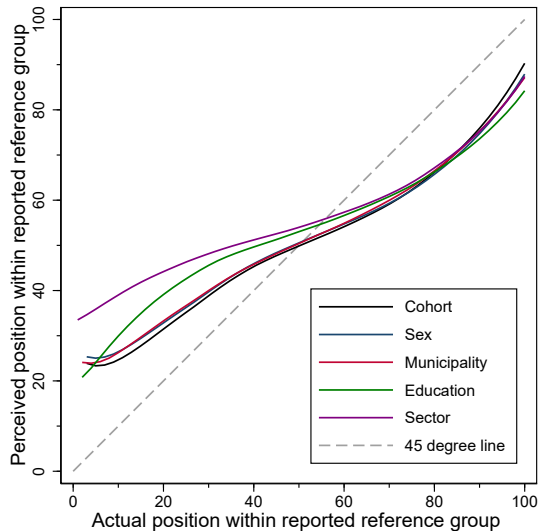
by cohort position
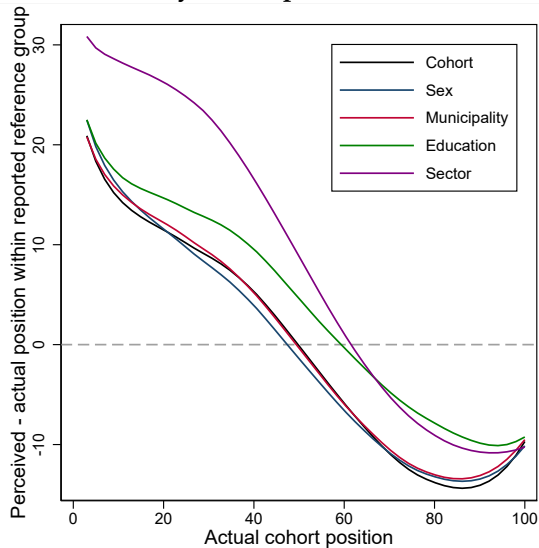
Perceived Position in Small Reference Groups
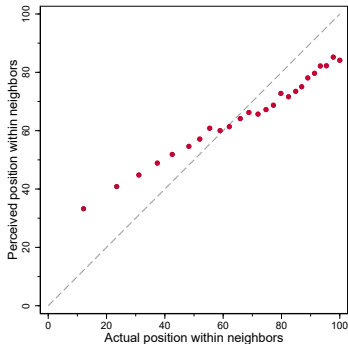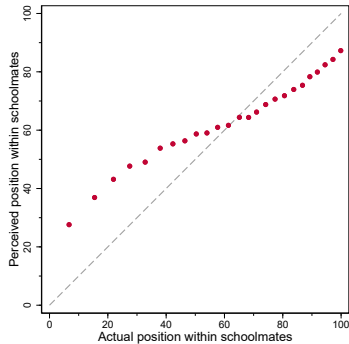
Perceived Position of Parents and Position Relative to Siblings

Father
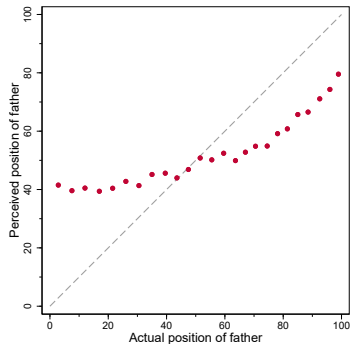
Mother
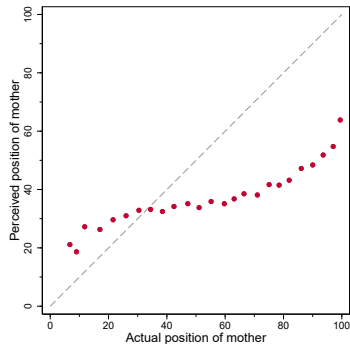
Siblings
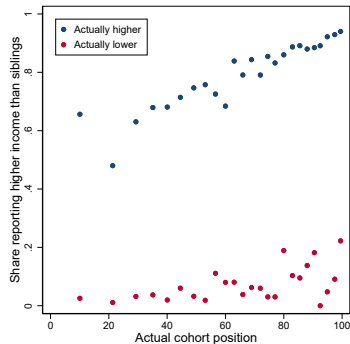
Fairness and Social Positions

Higher Position within References Groups correlated with Lower Perceived Unfairness and Higher Role of Effort vs. Luck

Unfairness
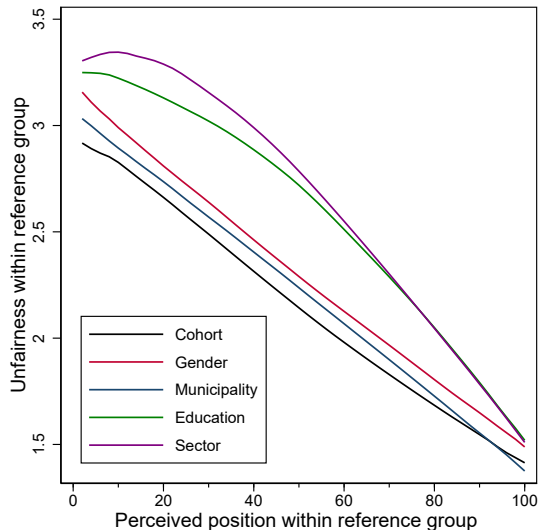
Effort vs. Luck
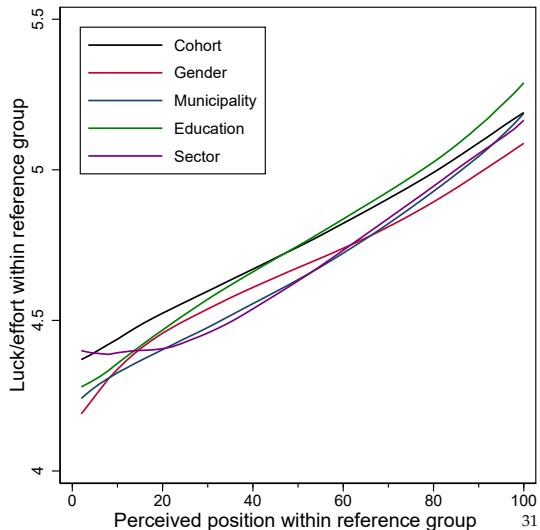
Cohort position, Misperception and Fairness Views

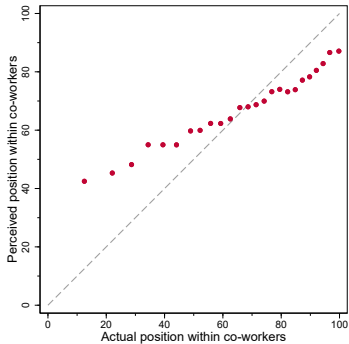|	More unfair					More	Right-
	Cohort	Gender	Mun.	Edu.	Sector	effort	wing
Panel A: No controls							
Position	-1.18***	-1.13***	-1.27***	-1.36***	-1.42***	0.81***	0.91***
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Misperception	-0.38***	-0.60***	-0.48***	-0.38***	-0.86***	0.43***	0.45***
	(0.10)	(0.09)	(0.09)	(0.08)	(0.09)	(0.10)	(0.10)
Panel B: With controls							
Position	-1.09***	-1.01***	-1.09***	-1.03***	-1.19***	0.92***	0.86***
	(0.09)	(0.08)	(0.08)	(0.08)	(0.08)	(0.09)	(0.09)
Misperception	-0.40***	-0.41***	-0.42***	-0.30***	-0.61***	0.46***	0.44***
	(0.10)	(0.10)	(0.09)	(0.09)	(0.09)	(0.10)	(0.10)
N	4690	4690	4690	4690	4450	4690	4690
Outcome mean	(2.01)	(2.16)	(2.09)	(2.54)	(2.53)	(4.81)	(3.01)
	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.01)

Current and Past Positions and Fairness Views
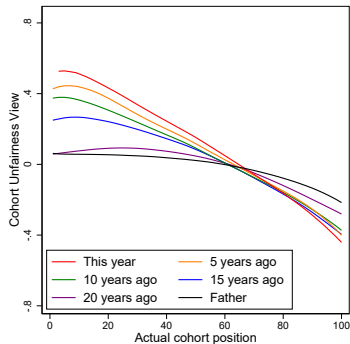
Fairness — **Effort/luck** — **Political view**
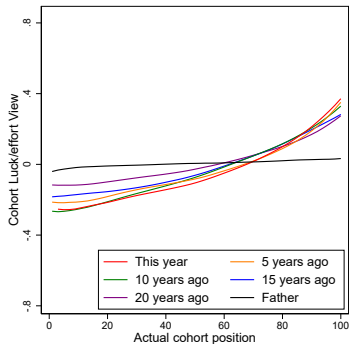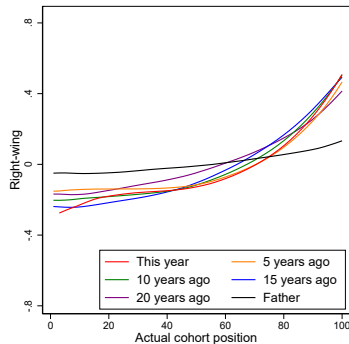
Income History and Fairness Views

	More unfair					More effort	Right-wing
	Cohort	Gender	Mun.	Edu.	Sector		
Position father	-0.059	-0.051	-0.068	-0.081*	-0.075*	0.025	0.122***
	(0.037)	(0.037)	(0.037)	(0.036)	(0.037)	(0.037)	(0.036)
Position -20 yr.	-0.122**	-0.097*	-0.108**	-0.113**	-0.131**	0.061	0.141***
	(0.042)	(0.041)	(0.041)	(0.040)	(0.041)	(0.042)	(0.041)
Position -15 yr.	-0.203***	-0.169***	-0.148**	-0.126**	-0.139**	0.131**	0.268***
	(0.048)	(0.048)	(0.048)	(0.047)	(0.048)	(0.049)	(0.047)
Position -10 yr.	-0.085	-0.100	-0.117*	-0.186***	-0.162**	0.206***	0.197***
	(0.058)	(0.057)	(0.057)	(0.056)	(0.057)	(0.058)	(0.057)
Position -5 yr.	-0.108	-0.096	-0.152*	-0.108	-0.130	0.037	-0.030
	(0.070)	(0.068)	(0.069)	(0.067)	(0.069)	(0.070)	(0.068)
Position this yr.	-0.655***	-0.618***	-0.647***	-0.678***	-0.761***	0.540***	0.358***
	(0.074)	(0.073)	(0.073)	(0.071)	(0.074)	(0.074)	(0.072)
Observations	9046	9046	9046	9046	8575	9046	9046
Controls	✓	✓	✓	✓	✓	✓	✓

Shocks to Position and Fairness Views

| | Current | More unfair | | | | | M. effort | Right- | N | Affected |
	position	Cohort	Gender	Mun.	Edu.	Sector	Cohort	wing		%
Unemployment	-12.2***	0.19***	0.22***	0.20***	0.17***	0.19***	-0.098	-0.026	7537	5.03
	(0.78)	(0.050)	(0.049)	(0.049)	(0.048)	(0.051)	(0.051)	(0.046)		
Disability	-21.6***	0.26*	0.51***	0.39**	0.24		-0.28*	-0.18	9246	0.61
	(2.31)	(0.13)	(0.13)	(0.13)	(0.13)		(0.13)	(0.12)		
Hospitalization	-1.82***	0.093**	0.079**	0.089**	0.060*	0.039	-0.0096	-0.0070	4749	55.5
	(0.49)	(0.029)	(0.028)	(0.028)	(0.027)	(0.028)	(0.029)	(0.026)		
Promotion	8.44***	-0.11*	-0.10*	-0.10*	-0.15***	-0.20***	0.13**	0.14***	7970	6.66
	(0.74)	(0.045)	(0.044)	(0.044)	(0.043)	(0.044)	(0.045)	(0.040)		
Pre-shock position FE	✓	✓	✓	✓	✓	✓	✓	✓		
Controls	✓	✓	✓	✓	✓	✓	✓	✓		

Treatment Effects by Misperception Strength

	More unfair within reference group					More	Right-
	Cohort	Gender	Municip.	Education	Sector	effort	wing
Position	-1.148***	-1.092***	-1.255***	-1.393***	-1.373***	0.935***	0.961***
	(0.049)	(0.049)	(0.048)	(0.048)	(0.052)	(0.049)	(0.045)
Misperception	-0.356***	-0.577***	-0.461***	-0.398***	-0.819***	0.530***	0.528***
	(0.092)	(0.086)	(0.083)	(0.075)	(0.079)	(0.092)	(0.084)
Treatment	0.080***	0.059**	0.062**	0.049*	0.039	-0.006	-0.024
	(0.021)	(0.021)	(0.021)	(0.020)	(0.020)	(0.021)	(0.020)
T × Misperception	0.307**	0.274*	0.187	0.036	0.259**	-0.140	-0.008
	(0.118)	(0.110)	(0.108)	(0.091)	(0.093)	(0.118)	(0.109)
N	9331	9331	9331	9331	8854	9331	9331

Answers to main questions

1: Systematic misperceptions of social positions... but misperceptions not large

2: People's current social position strongly affects their fairness views on inequality

3: Inequalities between co-workers & same education considered most unfair & are much bigger than people think

Comments very welcome!

THANK YOU!

More on the **Center for Economic Behavior and Inequality (CEBI)** at
https://www.econ.ku.dk/cebi/

and the **Social Economics Lab** at socialeconomicslab.org

Appendix

Summary Statistics

	Analysis sample (1)	Started survey (2)	Full population (excl. immigrants) (3)	Full population (4)
Demographics				
Male	0.51	0.47	0.51	0.50
Age	47.0	47.0	47.0	47.0
Married	0.63	0.61	0.57	0.58
Immigrant	0.00	0.00	0.00	0.13
Descendant	0.00	0.00	0.01	0.00
Income Position				
Income position	64.2	59.6	53.3	50.5
Bottom 50%	0.29	0.36	0.46	0.50
Middle 40%	0.54	0.50	0.43	0.40
Top 10%	0.17	0.14	0.11	0.10
Education				
Primary education	0.08	0.10	0.16	0.17
Upper secondary edu.	0.06	0.06	0.05	0.06
Vocational education	0.31	0.34	0.39	0.38
Short cycle higher edu.	0.09	0.08	0.07	0.07
Bachelor programs	0.27	0.26	0.20	0.20
Masters programs	0.19	0.17	0.13	0.13
Observations	9415	13686	339231	389863

Summary Statistics – cont.

	Analysis sample (1)	Started survey (2)	Full population (excl. immigrants) (3)	Full population (4)
[1em]**Socio Economic Status**				
Self-employed	0.04	0.04	0.06	0.06
Employee	0.90	0.87	0.80	0.77
Unemployed	0.01	0.02	0.02	0.02
Not in work force	0.05	0.07	0.12	0.14
Private Sector	0.66	0.66	0.66	0.66
Regions				
Copenhagen	0.31	0.30	0.30	0.32
Sealand	0.16	0.16	0.16	0.15
Southern Denmark	0.21	0.21	0.21	0.21
Middle Jutland	0.23	0.23	0.23	0.22
North Jutland	0.09	0.09	0.10	0.10
Parents' Income				
Mother's income position	53.1	52.1	50.5	50.2
Father's income position	53.3	52.4	50.8	50.5
Observations	9415	13686	339231	389863

Attrition Analysis

	Not in sample	
Panel A		
Treatment	0.007	(0.008)
Male	-0.083***	(0.008)
Age	0.001	(0.003)
Married	-0.021**	(0.008)
Ref.: Middle 40%		
Bottom 50 %	0.149***	(0.009)
Top 10 %	-0.060***	(0.012)
Ref.: Master programs		
Primary education	0.157***	(0.017)
Upper secondary edu.	0.017	(0.019)
Vocational education	0.086***	(0.012)
Short cycle higher edu.	0.014	(0.017)
Bachelor programs	0.026*	(0.012)
Ref.: Nothern Jutland		
Copenhagen	0.016	(0.015)
Sealand	-0.000	(0.016)
Southern Denmark	0.007	(0.015)
Middle Jutland	-0.014	(0.015)
Observations	13667	
Panel B	Share	
Not in the sample	0.312	
Conditional on not being in the sample		
Drop out at consent question	0.033	
Drop out at income question	0.327	
Drop out before treatment	0.775	
Drop out after treatment	0.037	
Screened out	0.158	