

# Identity, Groups & Social Preferences

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# Introduction – Motivation

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- Experimental look at identity and social preferences
    - *Social preferences* – care about others' payoffs, in relation to own (e.g. Fehr & Schmidt (1999))
    - *Identity* – sense of self, belonging to a group (Akerlof & Kranton 2000, 2010)
  - Why would this matter for organizations?
    - Workplace/organizational policies build on, tap into, or create groups
    - How people feel/behave towards others possibly depends on their identity
    - Do these groups/identity matter?
    - For whom?
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# Introduction – Motivation

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- Previous experiments:
  - Social preferences:
    - On average: subjects are inequity averse/max total payoffs
  - Social preferences in groups
    - Inequity averse towards out-group, just less so than towards in-group

# Introduction – Motivation

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- But world does not look what seen in prev experiments
  - Empirics show diversity reduces redistrib, public goods
    - E.g., Alesina, Baqir & Easterly (1999), Alesina & LaFerrara (1999), Miguel & Gugerty (2005)
  - Social psychology: detrimental behavior in group contexts
  - Human history = group divisions, exploitation, genocide
- Experiment designed to test for more extreme behavior
  - Possibly related to identification with a group

# Introduction – Experiment & Results

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- Test social preferences contingent on social context.
    - Duke University diverse subject pool
    - Divide subjects into groups – minimal and political
    - Allocate income to self and to other participant – in vs. out group
  - Within subject design – see how individuals behave in different settings
    - \* Replicate previous results \*
    - \* Most subjects do not respond to group treatments (no bias) (!) \*
    - \* But subset adopts particularly pernicious biased behavior (!) \*
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# Introduction – Implications

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- Very different picture of behavior in group contexts.
  - Mild bias on average, but average not at all representative
  - Rather, most people do not react to groups
  - But some people have extreme reaction
- Study reveals a new type of heterogeneity:
  - \* Some people are “groupy,” others are not.\*
- Study generates new hypothesis re identity/groups
  - \* Biased behavior in groups generated by a self-selected subset.\*
- Study generates new questions
  - Source of heterogeneity: Idiosyncracies? Identity? Socialization?

# Introduction – Overview of Experiment

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- Allocate income to self and other participant

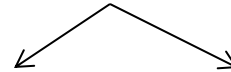
$\pi_i$	$\pi_j$
$\pi'_i$	$\pi'_j$

- Conditions
    - Non-group – random match
    - Minimal Group
      - subjects divided into groups by arbitrary criteria (poetry)
    - Political Group
      - subjects divided into Republican and Democrat groups
  - Within-Subject Design
  - Minimal Group is “control” for Political Group
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# Introduction – Political Groups

- Political Group: participants self-identified as

Democrat    Republican    Independent    None of the Above



closer to Dem    closer to Rep

Democrats

D-Leaning Ind

Republicans

R-Leaning Ind



# Introduction – Hypotheses

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- Hypotheses –

- Basic group effect for both Democrats and ~~D-Indep~~

- *MG In Group = non social control = inequity averse*

- *MG Out Group = less inequity averse than control*

- Group effect depends on individual identities

- *POL stronger than MG for both Democrats and ~~D-Indep~~*

- *POL stronger for Democrats than D-Indep*

# Introduction – Results

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- Summary of Results –
  - D-Indeps response:  $0 = \text{MG treatment} < \text{POL treatment}$ 
    - Generally not “groupy,” need strong group setting
  - Democrats response:  $0 < \text{MG treatment} \approx \text{POL treatment}$ 
    - Generally “groupy,” weak group setting elicit bias
  - Wide heterogeneity in response to group treatments
    - Median subject does not respond to MG or POL treatment
    - Same social preferences in group and output
    - Twenty percent extreme response = destroy out group income

# Description of Experiment

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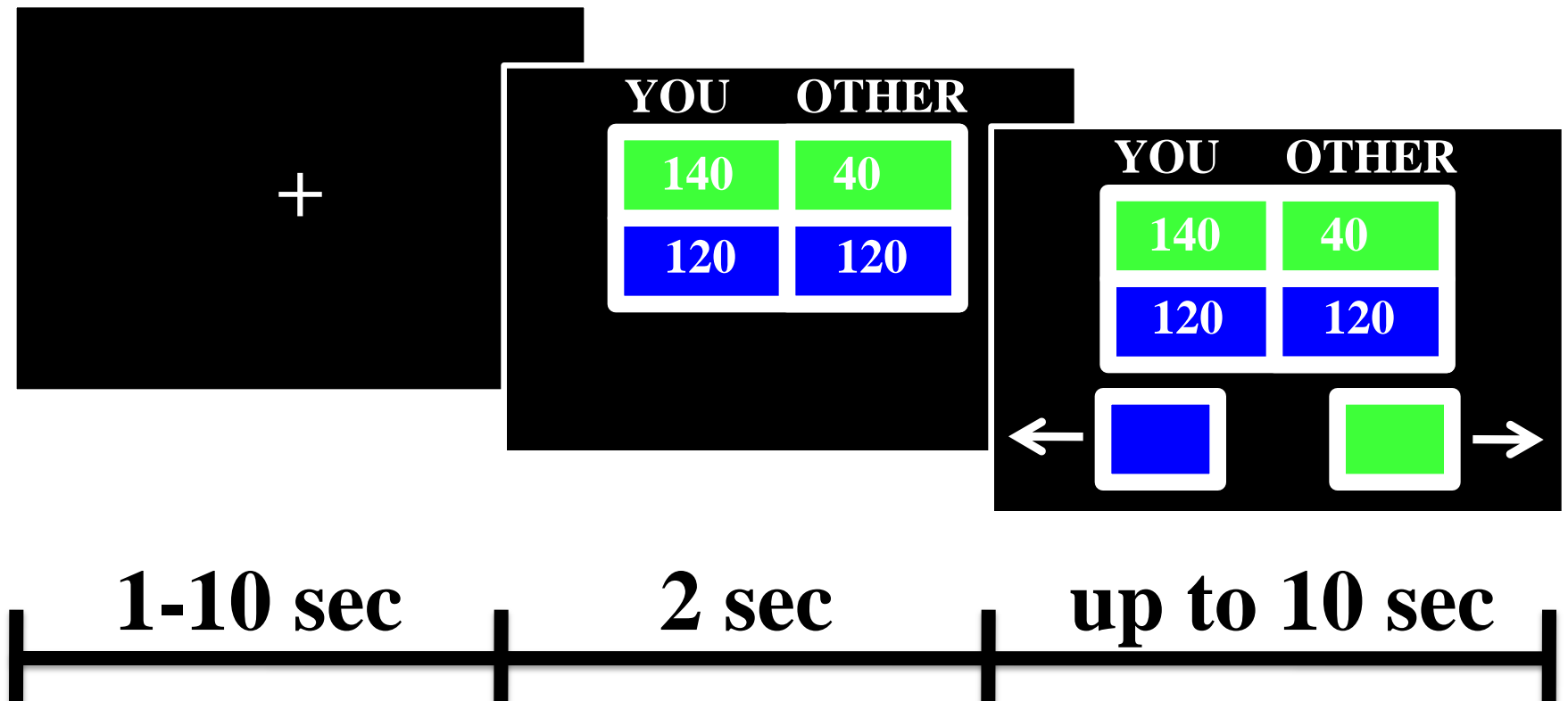
- Duke Center for Cognitive Neuroscience (no deception)
- Hour-long sessions  $\approx$  5 subjects at a time.
- Schematic of Experimental Session

<b>Instructions</b>	<b>3-5 minutes</b>
<b>Asocial Control</b>	
<b>52 Choices</b>	<b>12 minutes</b>
<b>Minimal or Political Group Treatment</b>	
<b>Survey</b>	<b>2-5 minutes</b>
.....	
<b>78 Choices</b>	<b>17 minutes</b>
<b>Minimal or Political Group Treatment</b>	
<b>Survey</b>	<b>2-5 minutes</b>
.....	
<b>78 Choices</b>	<b>17 minutes</b>
<b>Post-experiment Survey</b>	<b>10 minutes</b>

- Paid for one choice in each – control, MG, POL group

# Timed Choices - Details

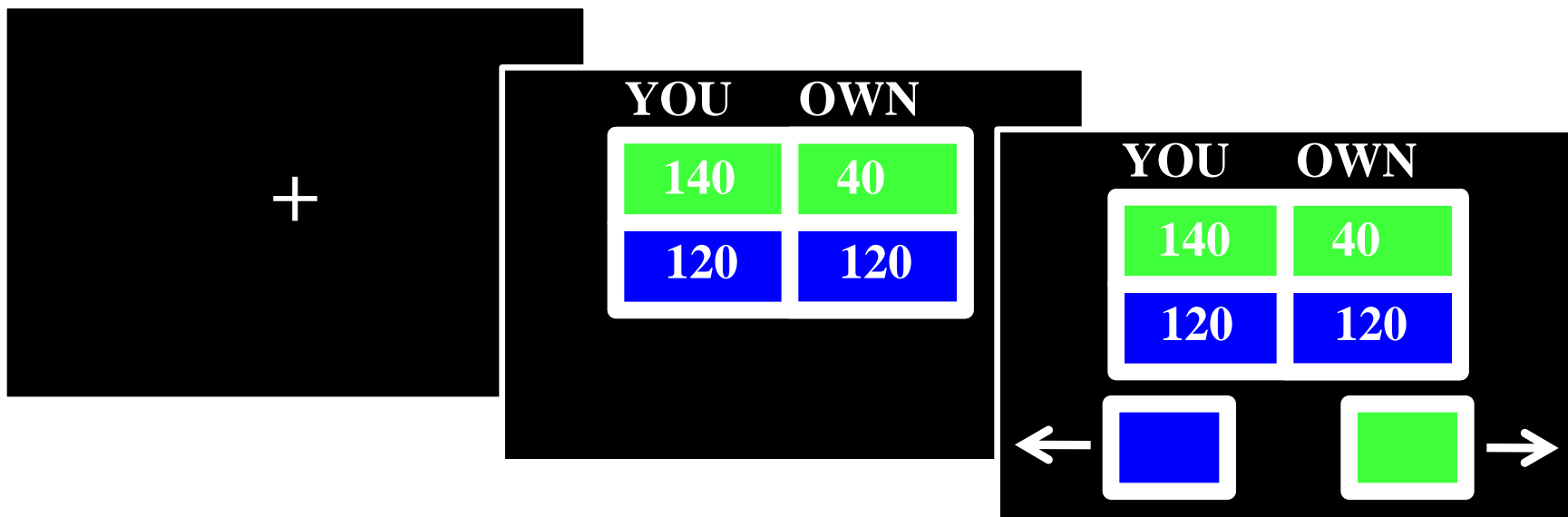
- Allocation choices, timed as follows:



- 26 matrices,  $26 \times 7 = 208$  decisions per subject
- Top, bottom, green, blue, left, right: all randomized

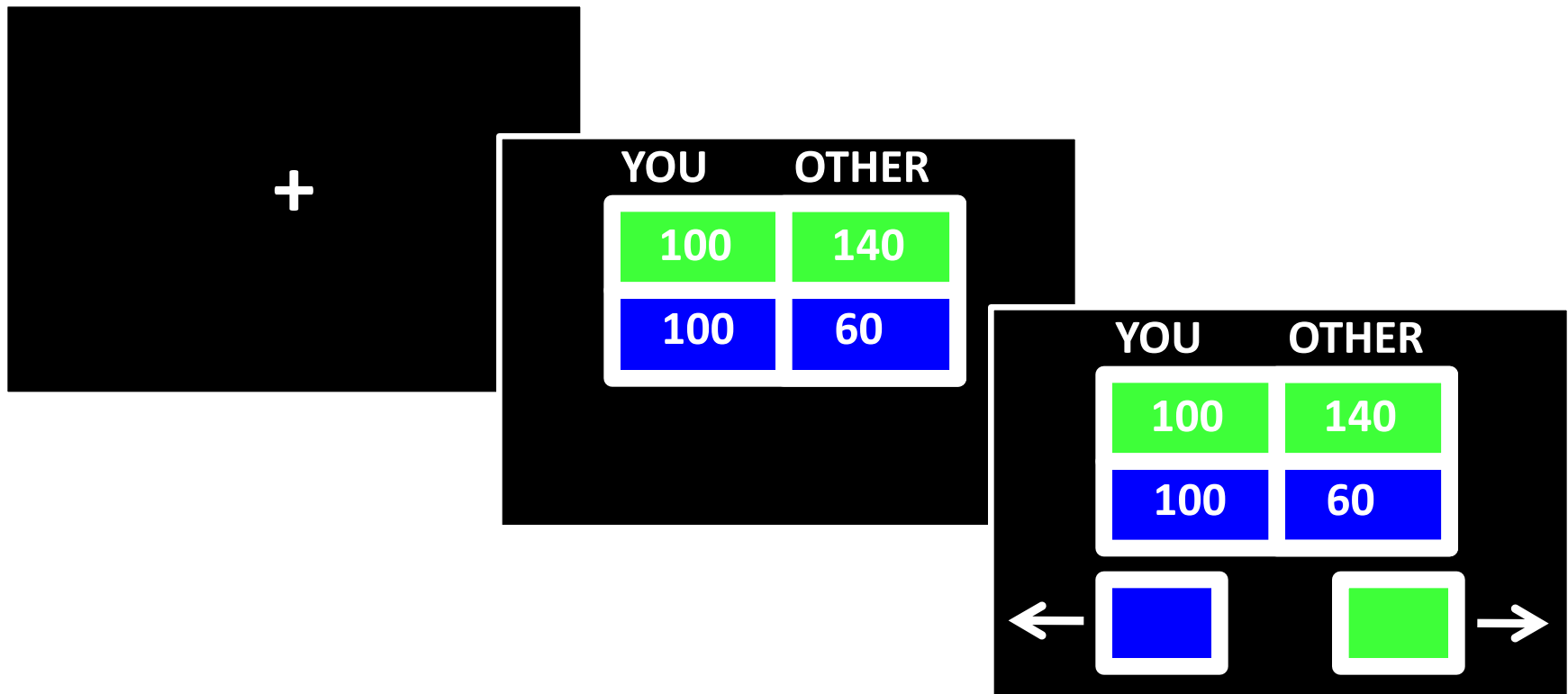
# Timed Choices - Details

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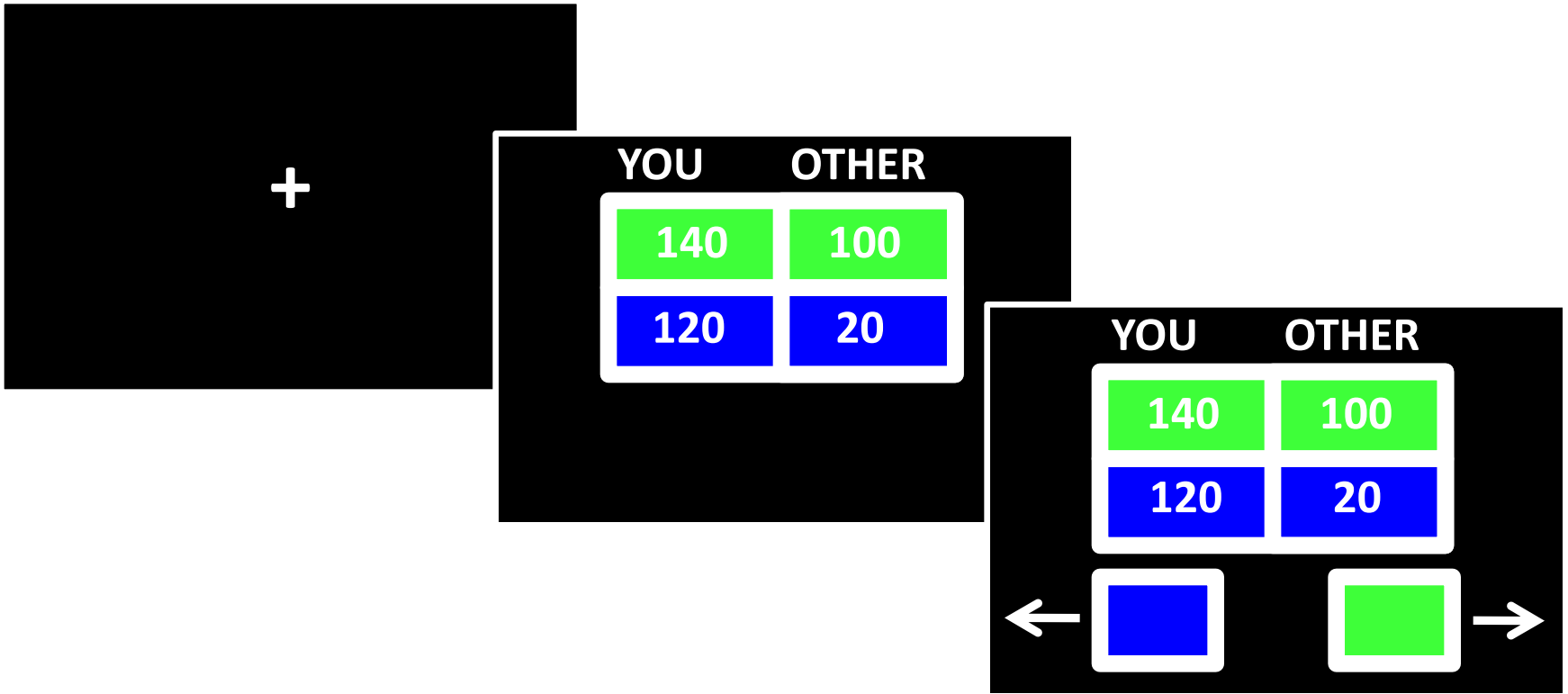


Choose Bottom = **Inequity Averse/Fairness**

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Choose Top = Total Income Max/Social Welfare Max



Choose Bottom = **Inequity Loving/Dominance-Seeking**

# Subjects: Democrats & Democratic-Leaning

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**Table 1: Distribution of Political Affiliations and Leanings**

POLITICAL CATEGORY	% OF SUBJECTS
Democrat – Strong	15
Democrat – Moderate	33
Republican – Strong	0
Republican – Moderate	13
Independent – Dem leaning	13
Independent – Rep leaning	10
None of the Above – Dem leaning	11
None of the Above – Rep leaning	5

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# Comparison

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- *Democrats* vs. *D-Leaning Independents + None*
  - Largest subsets in subject pool
  - Identical demographics/political opinions
  - Only observable difference is party affiliation

# Basic Results

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- Consider individual “bias” in allocating income

for an individual  $i$ :

for a given matrix  $m$ :

(income to own – income given to other)

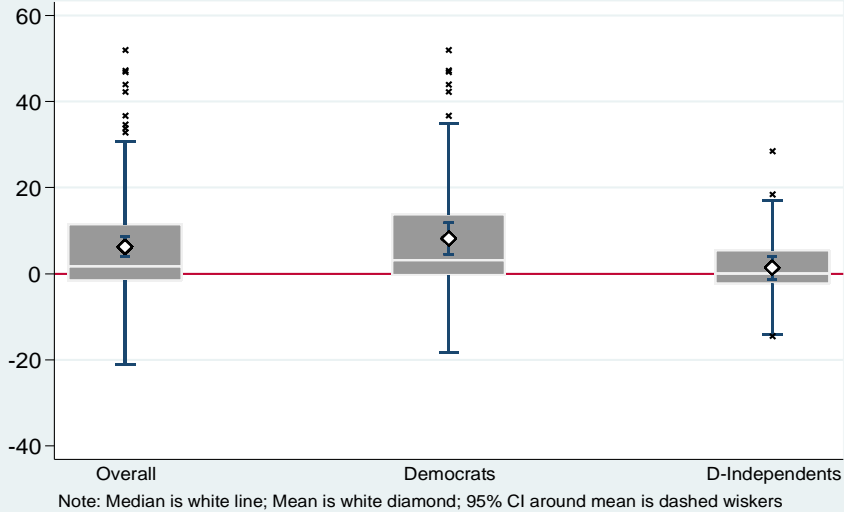
average across all  $m$  gives “bias” for individual  $i$

positive when individual  $i$  gives more to own group member

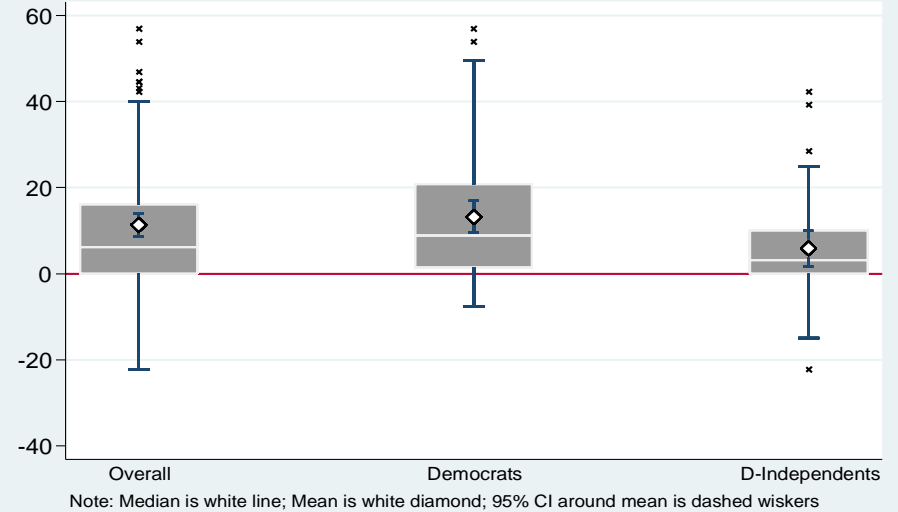
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# Bias in Payoffs Given (Ingroup – Outgroup)

Differences in Points Given  
Minimal Group (Ingroup minus Outgroup)



Differences in Points Given  
Political Group (Ingroup minus Outgroup)



# Estimation of Social Preferences

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- Structural estimation :
  - Posit a utility function  
Modify Fehr & Schmidt (1999), Charness & Rabin (2002), Chen & Li (2009)
  - Max likelihood – discrete choice – logit
  - (1) Estimate social preferences on average
    - Democrats v. D-Independents
  - (2) Estimate individual social preferences
    - Finite mixing model and categorize individuals
    - Identify *individuals* who change social preferences in groups


# Social Preferences

$\pi_i$	$\pi_j$
$\pi'_i$	$\pi'_j$

- Normalize matrix, top row gives (weakly) more to  $i$ .
  - $\Delta\pi_i = \pi_i - \pi'_i$  loss to  $i$  from choosing bottom row
- Choose top: consistent with being “selfish”
- Choose bottom: lose  $\Delta\pi_i$  for “social objective:”
  - Inequity Averse:  $|\pi'_i - \pi'_j| < |\pi_i - \pi_j|$  (15 matrices)
  - Total Income Max :  $\pi'_i + \pi'_j > \pi_i + \pi_j$  (9 matrices)
  - Dominance Seeking:  $\pi'_i - \pi'_j > \pi_i - \pi_j$  (10 matrices)

# Utility Function

- $U_i(\pi_i, \pi_j) = \beta_i \pi_i + \rho_i(\pi_i - \pi_j)r + \sigma_i(\pi_j - \pi_i)s$ 
  - $\beta_i$  weight on own income
  - $\rho_i$  weight on income difference for  $\pi_i > \pi_j$  ( $r = 1; s = 0$ )
  - $\sigma_i$  weight on income difference for  $\pi_i \leq \pi_j$  ( $r = 0; s = 1$ )

$\beta_i > 0$	$\sigma_i = 0$	$\sigma_i > 0$	$\sigma_i < 0$
$\rho_i = 0$	<i>Purely Selfish</i>	<i>Social Welfare Max</i>	<i>Fair/Dominance-Seeking</i>
$\rho_i < 0$	<i>Fair/Soc Welf Max</i>	<i>Social Welfare Max</i>	<i>Fair</i> 
$\rho_i > 0$	<i>Dominance-Seeking</i>	<i>Impossible</i>	<i>Dominance-Seeking</i>

# Social Preferences Estimates – All Subjects

Panel A  
Average Utility Function Parameters by Condition

Utility Function Parameters	Non-Group	Minimal Group		Political Group	
		You-Own	You-Other	You-Own	You-Other
Beta	0.0436** (0.00168)	0.0420** (0.00164)	0.0344** (0.00148)	0.0412** (0.00163)	0.0336** (0.00146)
Rho	-0.0112** (0.000655)	-0.0130** (0.000679)	-0.00728** (0.000588)	-0.0140** (0.000674)	-0.00342** (0.000573)
Sigma	-0.00247* (0.00124)	-0.00288* (0.00126)	-0.00629** (0.00129)	-0.00168 (0.00123)	-0.0108** (0.00136)
Observations	3,636	3,645	3,650	3,652	3,640

\*\*\* Significant at 1%

\*\* Significant at 5%.

Panel B

# Replicate Previous Results – Group Effects

**Table X. Full Sample Wald Test of Differences in Utility Functions Estimates**

Comparison	Test Statistic	** P-Val < 0.05 * P-Val < 0.10
Non-Group vs.:		
Minimal Group You-Own	10.81	**
Minimal Group You-Other	27.85	***
Political Group You-Own	28.36	***
Political Group You-Other	110.70	***
Minimal Group		
You-Own vs. You-Other	47.33	***
Political Group		
You-Own vs. You-Other	212.14	***
Minimal Group You-Own vs.		
Political Group You-Own	4.27	
Minimal Group You-Other vs.		
Political Group You-Other	39.96	***



# Social Preferences Estimates – Democrats

Panel A  
Average Utility Function Parameters by Condition

Utility Function Parameters	Non-Group	Minimal Group		Political Group	
		You-Own	You-Other	You-Own	You-Other
Beta	0.0440** (0.0024)	0.0406** (0.0023)	0.0327** (0.0021)	0.0398** (0.0023)	0.0368** (0.0022)
Rho	-0.0109** (0.0009)	-0.0119** (0.0010)	-0.0054** (0.0008)	-0.0132** (0.0010)	-0.0019* (0.0008)
Sigma	-0.0011 (0.0018)	-0.0004 (0.0018)	-0.0065** (0.0019)	-0.0017 (0.0018)	-0.01116** (0.0020)
Observations	1755	1760	1755	1759	1750

\*\*\* Significant at 1%

\*\* Significant at 5%.

# Social Preferences Estimates – D-Indep

Panel A  
Average Utility Function Parameters by Condition

Utility Function Parameters	Non-Group	Minimal Group		Political Group	
		You-Own	You-Other	You-Own	You-Other
Beta	0.0430** (0.0034)	0.0395** (0.0032)	0.0381** (0.0032)	0.0421** (0.0034)	0.0328** (0.0029)
Rho	-0.0107** (0.0013)	-0.0120** (0.0013)	-0.0117** (0.0013)	-0.0135** (0.0014)	-0.0074** (0.0012)
Sigma	-0.0052* (0.0026)	-0.0061* (0.0026)	-0.0054* (0.0026)	-0.0049 (0.0026)	-0.0096** (0.0027)
Observations	876	880	880	882	882

\*\* Significant at 1%

\* Significant at 5%.

Panel B

# Dems vs. D-Indep – Significance of Group Effects

**Table Y. Wald Test of Differences in Utility Function/Social Preferences across Conditions within Democrats and within D-Independents**

Comparison	DEMOCRATS		D-INDEPENDENTS	
	Test Statistic	*** p < 0.01 ** p < 0.05	Test Statistic	*** p < 0.01 ** p < 0.05
on-Group vs.:				
Minimal Group You-Own	4.94		3.19	
Minimal Group You-Other	26.77	***	4.20	
Political Group You-Own	16.65	***	5.08	
Political Group You-Other	79.79	***	6.97	*
Minimal Group				
You-Own vs. You-Other	36.43	***	0.15	
Political Group				
You-Own vs. You-Other	148.47	***	13.96	***
Minimal Group You-Own vs.				
Political Group You-Own	3.63		0.76	
Minimal Group You-Other vs.				
Political Group You-Other	25.78	***	8.18	**

# Social Preferences Estimations - Individuals

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- (1) Population Estimates –  $(\beta, \rho, \sigma)$  same across subjects
  - (2) Individual Estimates – Mixing Model
    - Estimate  $(\beta_t, \rho_t, \sigma_t)$  for given number of “types”  $t = 1, \dots, n$ .
    - \*Data\* gives the parameters and the % of pop of each type
    - Posit 4 types (just enough, 5 does not give much more precision)
    - \*Data\* gives us 4 types that match the four basic types in table
  - Categorize Each Individual as a Type
    - use estimated parameters and individual choices
    - highest posterior probability individual is type  $t$ .
  - Identify individuals who “switch” types in group conditions.
    - “(Non)Switchers” = “(Non)Groupy”
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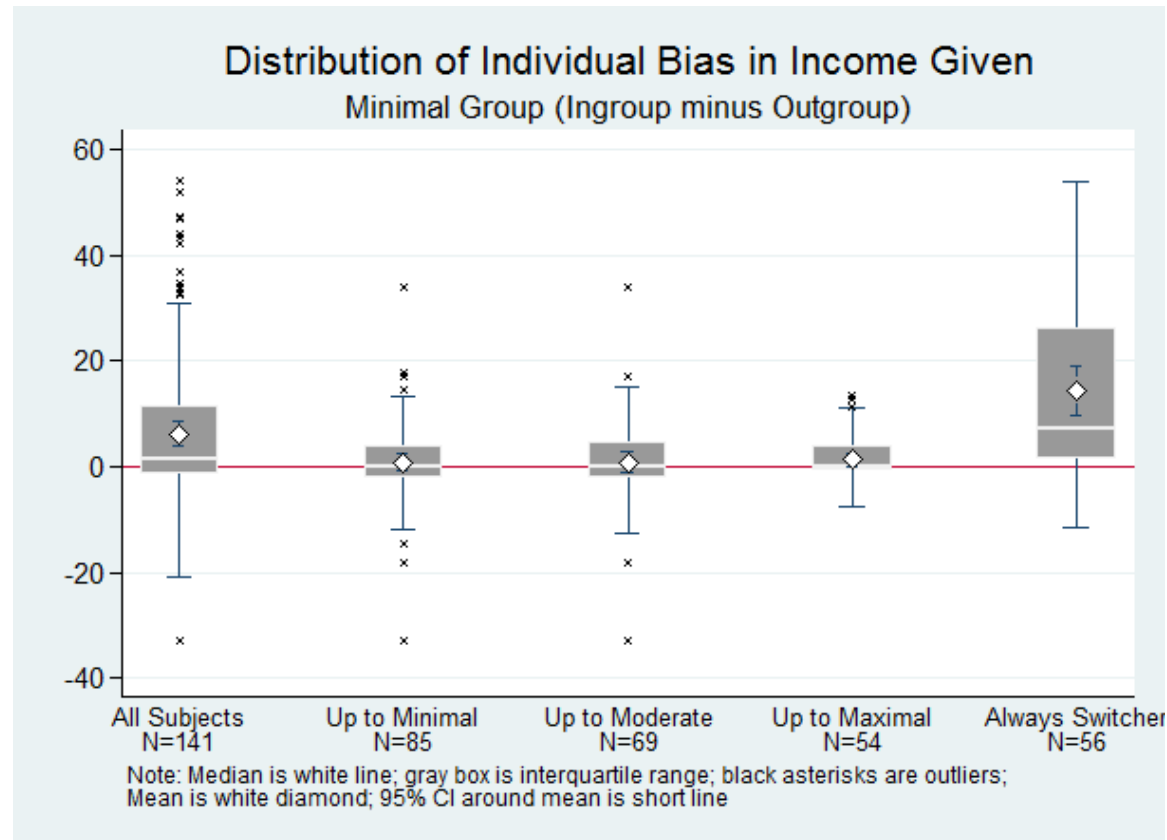
# Subjects from AS to POL - Cross –Tabs

Table 8: Cross Tabulations of Subjects' Types

		POL: You-Other				
AS/NG: You-Other	SELF	SWM	FAIR	DOM	Total	
SELFISH	28	3	0	4	35	
SOCIAL WEL MAX	16	17	8	11	52	
FAIR	1	5	33	8	47	
DOMINANCE	0	0	0	7	7	
Total	45	25	41	30	141	

- Selfish mostly stay selfish, dominant stay dominant
- Biggest movement: social welfare max become selfish, dominant
- Fair mostly fair but also become dominant

# Groupy vs. Non-Groupy Subjects: Bias in MG



# Conclusion

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- Main messages:
  - People are not intrinsically inequity averse (fair)
  - Individuals react differently to group settings
  - Identity matters: behavior depends on social context, group divisions
- What is behind “(non)groupiness?” Socialization?
  - Duke Demographics – high education fathers, pol independents
  - Mturk Study – much weaker response to MG treatment
    - No correlation with Big 5
    - Same pattern with Dems and D-Independ though not significant
    - Groupiness correlated with Republican living in the Deep South