Swinging Foundational Views: An Experiment on the Persuasive Effects of Moral Frames

W241 Experiments and Causality

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Abstract

Through this experiment we tested the treatment effect of various presentations of the moral foundations ("the frame") on a person's feelings towards a particular topic.

1 Background

[[TBD]]

2 Data

[[TBD]]

NORES:
- One problem I see with excluding the 10 control women: 5 of them retook - so we would be including their second take
- Given our test for day of recruitment not being significant I think we can keep them
- plus, even if we drop them after the fact by virtue of limiting to the "balanced" datasets they will have at least added another cohort for our recruit day test

2.0.1 Data Cleaning

[[TBD]] [1]

```
## # A tibble: 14 x 7
## # Groups:   ideology_bin [3]
##    ideology_bin arm                Tuesday1 Friday Sunday Monday Tuesday2
##    <chr>        <fct>                 <int>  <int>  <int>  <int>    <int>
##  1 conservative control                  18      9     33     17       12
##  2 conservative purity_base              19     NA     28     18       12
##  3 conservative purity_extension         18     NA     30     16       15
##  4 conservative fairness_base            18     NA     NA     NA       NA
##  5 conservative fairness_extension       18     NA     NA     NA       NA
##  6 liberal      control                  21     NA     NA      1       25
##  7 liberal      purity_base              19     NA      1      1       24
##  8 liberal      purity_extension         21     NA      2      1       23
##  9 liberal      fairness_base            21     NA     NA     NA       14
## 10 liberal      fairness_extension       19     NA     NA     NA       10
## 11 moderate     control                   2     NA      1      1        1
## 12 moderate     purity_base               2     NA      2      1        3
## 13 moderate     purity_extension          2     NA     NA      1        1
## 14 moderate     fairness_extension        3     NA     NA     NA        1
```

2.1 Exploratory Analysis

[[TBD]]

2.1.1 Study Setup

2.1.2 Demographics

Example reference to r cell *Figure 2* shows *[[TBD]]*

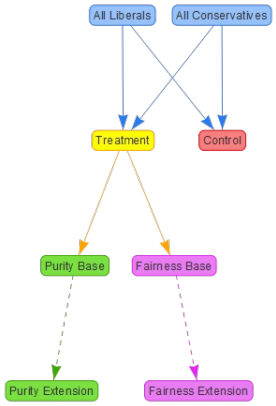

Figure 1: Study Flowchart

2.1.3 Reactions

2.1.4 Outcome

```
## Warning: Factor `ubi_familiarity` contains implicit NA, consider using
## `forcats::fct_explicit_na`

## Warning: Factor `ubi_familiarity` contains implicit NA, consider using
## `forcats::fct_explicit_na`
```

[1] *[[Example footnote]]*

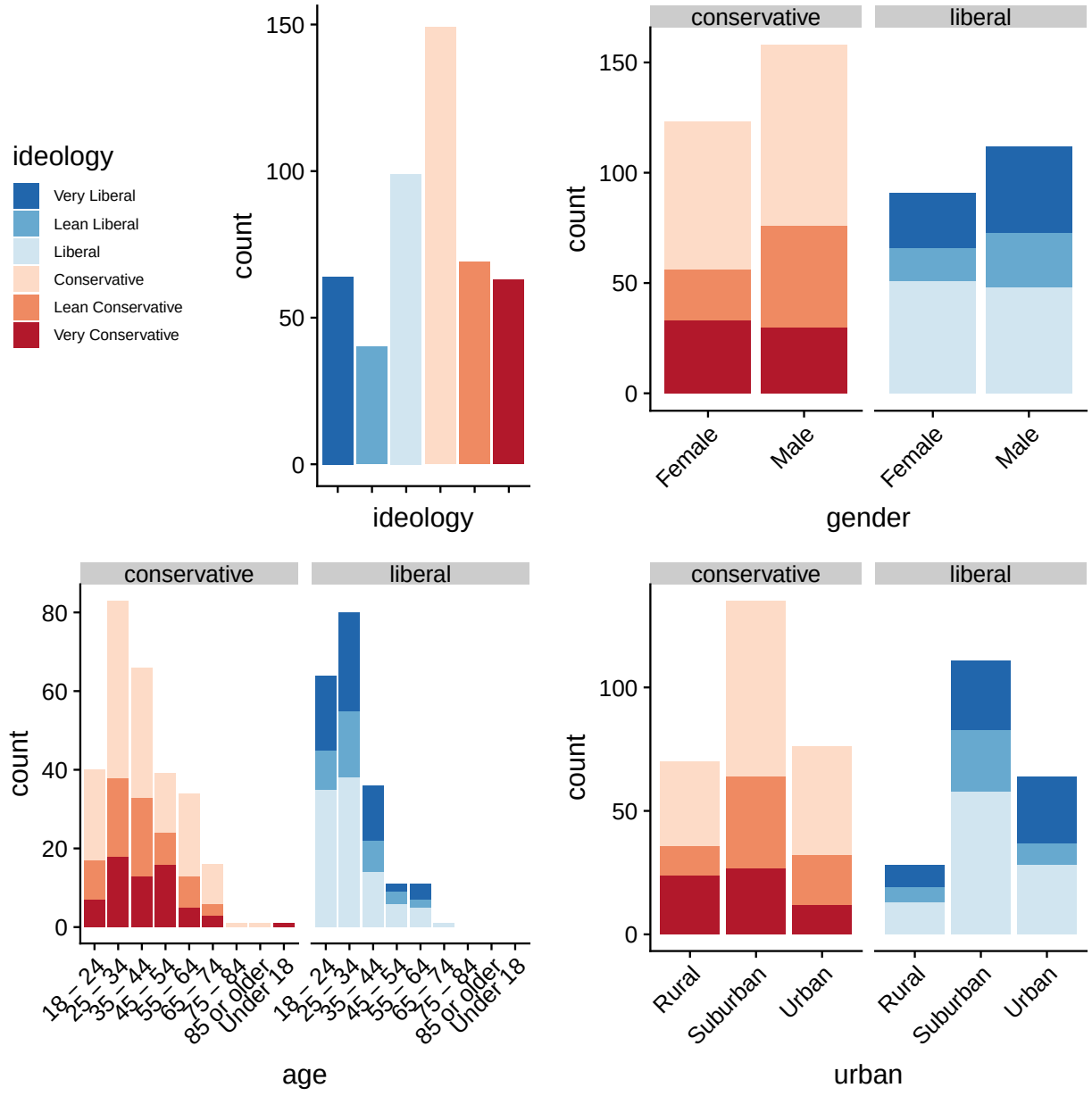

Figure 2: Demographics

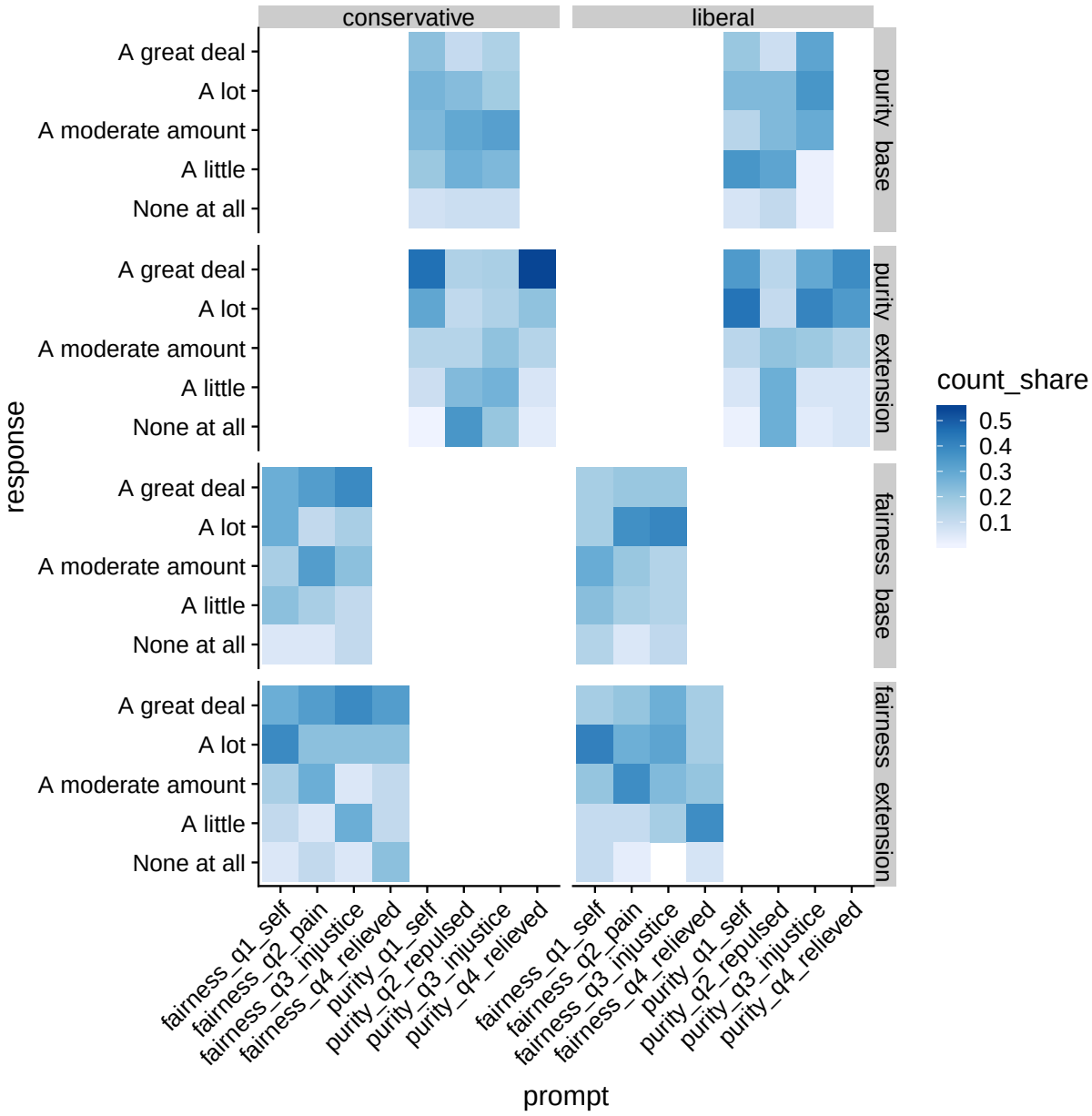

Figure 3: Reactions

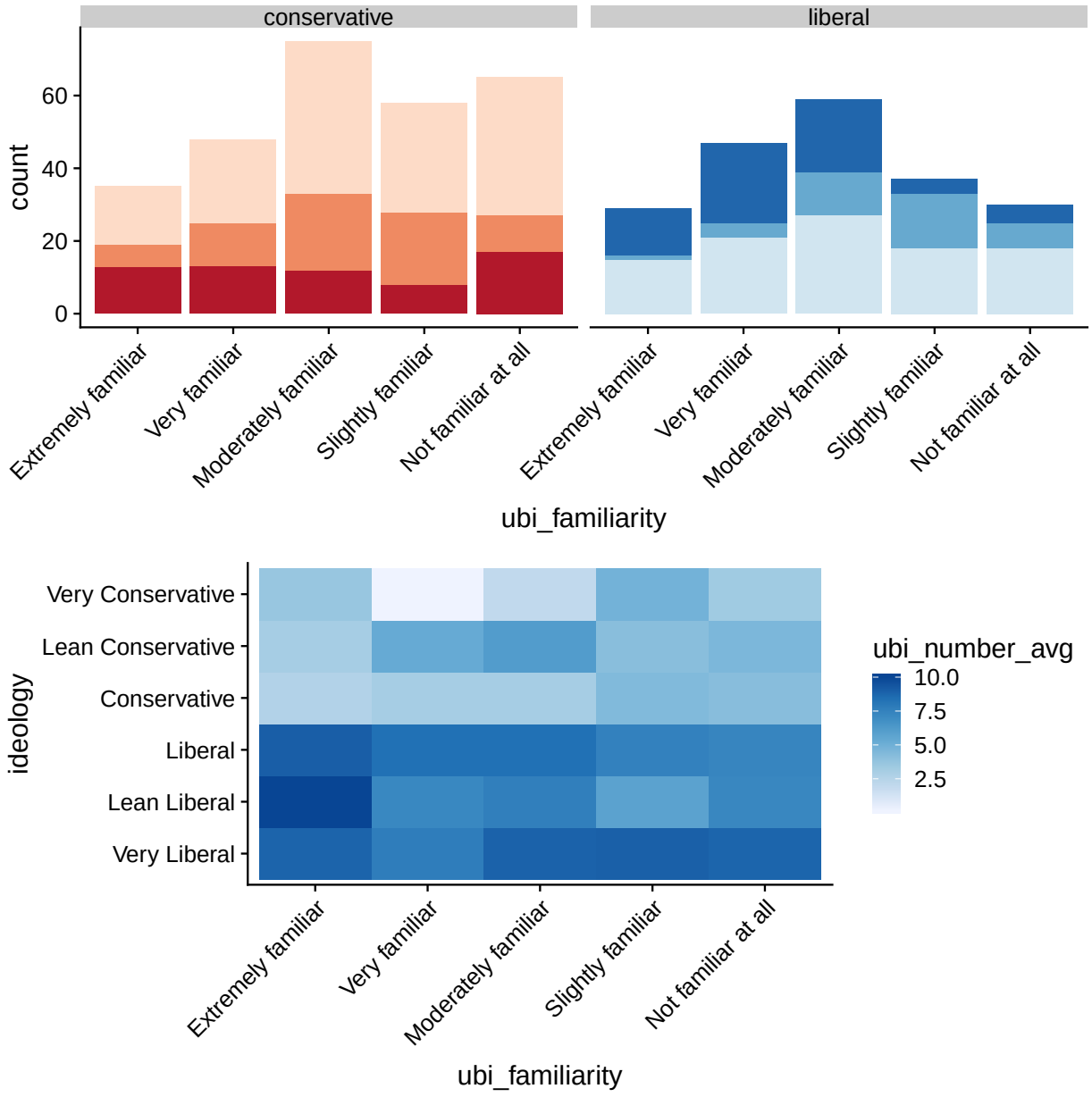

Figure 4: Outcomes

3 Methodology

Independent variable

Dependent variable

Model specification

[[TBD]]. (see **??**)

NOTES:
- Purity Extension to the Conservatives BY ITSELF is significant at to 0.1 level
- Day of recuitment not significant across any arms
- Therefore, no need to stratify (see below for example of stratification specification)

```
## Warning in svydesign.default(id = ~1, strata = ~recruitment_day, data =
## results_armconpure): No weights or probabilities supplied, assuming equal
## probability
```

NOTES: - 1.072** is the same here when strifying as with below not stratifying - further evidence day doesn't matter? -

NOTES:
- Still not sure if using the balanced is necessary if we're saying that day of the week is not significant
- We lost some significane on the Con + Pure Extension, because we removed the 10 control women? Think we can add them back.

NOTES:
Gender
- Gender gap still interesting - a significant baselne difference between genders

Familiarity
- Being familiar with UBI makes conservatives lower at baseline
- Really just noise based on no change in treatment effect
below notes from previous factorial setup
- Interation of familiarity and purity is actually fascintating directionally-speaking
- Liberals higher at baseline if familiar BUT the treatment actually lowered their scores while those unfamiliar moved up when treated
- The absolute opposite happens for conservatives: if you're familiar you start lower and then treatment nudges you higher but those unfamiliar move down

Reaction
- Running out of N and no interaction with other arm - hard to read

[[Example Table]]

Model	Specification	Interpretation	Figure
Model 1	*ubinumber~armlevel*	$\Delta armlevel = \beta_1 \Delta ubinumber$	**??**

```
# Stargazer
```

Table 1: Moral Foundations Regression Specifications

	Four Study Arms + Control			
			UBI Ranking	
	Control Only	Lib + Fair	Lib + Pure	Con + Fair
	(1)	(2)	(3)	(4)
Liberal	5.084***			
	(0.664)			
	p = 0.000			
Base Treatment		−0.212	−0.161	−0.333
			(0.452)	(1.208)
			p = 0.722	p = 0.783
Extension Treatment		−0.748	−0.037	0.889
			(0.499)	(1.289)
			p = 0.942	p = 0.491
Friday	−0.425			−0.833
	(1.318)			(1.420)
	p = 0.748			p = 0.558
Sunday	−0.162		0.769	−0.571
	(0.946)		(1.242)	(1.084)
	p = 0.864		p = 0.536	p = 0.599
Monday	0.570	−1.027	−2.243	0.278
	(1.081)		(1.872)	(1.261)
	p = 0.598		p = 0.231	p = 0.826
Tuesday2	−0.370	0.390	−0.091	−1.556
	(0.603)		(0.398)	(1.216)
	p = 0.539		p = 0.820	p = 0.201
Constant	3.314***	8.027	8.309***	3.722***
	(0.688)		(0.386)	(0.868)
	p = 0.00001		p = 0.000	p = 0.00002
Observations	136	111	139	125
R^2	0.384	0.035	0.024	0.036
Adjusted R^2	0.360	−0.002	−0.013	−0.013
Residual Std. Error	3.071 (df = 130)	2.115 (df = 106)	2.297 (df = 133)	3.564 (df = 118)
F Statistic	16.188*** (df = 5; 130)	0.953 (df = 4; 106)	0.652 (df = 5; 133)	0.738 (df = 6; 118)

Note: *p<0.1; **p<
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Table 2: Moral Foundations Regression Specifications

	Dependent variable:
	ubi_number
	Con + Pure
Base	0.354
	(0.516)
	p = 0.495
Extension	1.072**
	(0.531)
	p = 0.045
Constant	3.270***
	(0.369)
	p = 0.000
Observations	245
Log Likelihood	−643.124
Akaike Inf. Crit.	1,292.249
Note:	*p<0.1; **p<0.05; ***p<0.01
	HC Robust Standard Errors

Table 3: Moral Foundations Regression Specifications

	Four Study Arms			
	UBI Ranking			
	Lib + Fair	Lib + Pure	Con + Fair	Con + Pure
	(1)	(2)	(3)	(4)
Base Treatment	−0.143	0.531	−0.056	0.608
	(0.773)	(0.595)	(1.075)	(1.157)
	p = 0.854	p = 0.373	p = 0.959	p = 0.600
Extension Treatment	−0.890	0.095	1.167	0.722
	(0.691)	(0.662)	(1.164)	(0.995)
	p = 0.198	p = 0.886	p = 0.317	p = 0.468
Constant	8.048***	8.048***	3.444***	3.444***
	(0.497)	(0.497)	(0.669)	(0.669)
	p = 0.000	p = 0.000	p = 0.00000	p = 0.00000
Observations	61	61	63	64
R^2	0.028	0.015	0.023	0.009
Adjusted R^2	−0.006	−0.019	−0.009	−0.023
Residual Std. Error	2.324 (df = 58)	1.904 (df = 58)	3.581 (df = 60)	3.502 (df = 61)
F Statistic	0.831 (df = 2; 58)	0.436 (df = 2; 58)	0.710 (df = 2; 60)	0.285 (df = 2; 61)
Note:				*p<0.1; **p<0.05; ***p<0.01
				HC Robust Standard Errors

Table 4: Moral Foundations Regression Specifications

	Four Study Arms			
	UBI Ranking			
	Lib + Fair	Lib + Pure	Con + Fair	Con + Pure
	(1)	(2)	(3)	(4)
Base Treatment	−0.241	−0.146	0.119	0.354
	(0.488)	(0.451)	(0.919)	(0.518)
	p = 0.621	p = 0.746	p = 0.897	p = 0.495
Extension Treatment	−0.799	0.000	1.341	1.072**
	(0.493)	(0.479)	(1.022)	(0.533)
	p = 0.105	p = 1.000	p = 0.190	p = 0.045
Constant	8.213***	8.213***	3.270***	3.270***
	(0.288)	(0.288)	(0.370)	(0.370)
	p = 0.000	p = 0.000	p = 0.000	p = 0.000
Observations	111	139	125	245
R^2	0.023	0.001	0.017	0.018
Adjusted R^2	0.005	−0.014	0.001	0.010
Residual Std. Error	2.108 (df = 108)	2.299 (df = 136)	3.539 (df = 122)	3.347 (df = 242)
F Statistic	1.299 (df = 2; 108)	0.061 (df = 2; 136)	1.082 (df = 2; 122)	2.200 (df = 2; 242)

Note: *p<0.1; **p<0.05; ***p<0.01
HC Robust Standard Errors

Table 5: Moral Foundations Prelim Regression Specifications

	Con + Pure Arm Only				
	No Covariates	Gender	UBI Ranking UBI Familiarity	Reaction (Base)	Reacti
	(1)	(2)	(3)	(4)	
Base Treatment	0.354 (0.518) p = 0.495	0.476 (0.518) p = 0.358	0.371 (0.519) p = 0.475		
Extension Treatment	1.072** (0.533) p = 0.045	1.207** (0.537) p = 0.025	1.074** (0.534) p = 0.045		
Male		1.009** (0.426) p = 0.018			
Familiar w/ UBI			−0.330 (0.520) p = 0.526		
Repulsed				−0.592 (0.774) p = 0.445	p
Relieved					p
Constant	3.270*** (0.370) p = 0.000	2.623*** (0.445) p = 0.000	3.518*** (0.552) p = 0.000	4.000*** (0.633) p = 0.000	p
Observations	245	245	245	77	
R^2	0.018	0.040	0.020	0.008	
Adjusted R^2	0.010	0.028	0.007	−0.005	
Residual Std. Error	3.347 (df = 242)	3.316 (df = 241)	3.351 (df = 241)	3.162 (df = 75)	3.29
F Statistic	2.200 (df = 2; 242)	3.330** (df = 3; 241)	1.603 (df = 3; 241)	0.624 (df = 1; 75)	3.267*

Note: *p<0.1; **p<0
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4 Results

[[TBD]]

5 Conclusion

[[TBD]]

6 Discussion

[[TBD]]

6.1 Limitations

[[TBD]]

7 Technical Appendix

7.1 Data Dictionary

Variable Name	Variable	Values	Notes
prolific_pid	User ID	10-digit numeric	
panel			
arm			
node			
arm_level			
ideology			
ideology_bin			
age			
gender			
urban			
employment_status			
student_status			
purity_q1_self			
purity_q2_repulsed			
purity_q3_injustice			
purity_q4_relieved			
fairness_q1_self			
fairness_q2_pain			
fairness_q3_injustice			
fairness_q4_relieved			
open_text_reaction			
ubi_number	UBI Number	Integer 0-10	
ubi_group			
ubi_familiarity			
ubi_familiarity_bin			

7.2 Exploratory Data Analysis

Additional steps taken not included in the body of the report

[[TBD]]