

Replication of ‘The Stars down to the Ballot Box: Heterodoxy and Comparative Electoral Behaviour’

2026-03-02

To facilitate reproducibility, we produced this interactive replication file in Quarto (<https://quarto.org>). This Quarto file reproduces all results reported in the main text of “*The Stars down to the Ballot Box: Heterodoxy and Comparative Electoral Behaviour*.” All datasets and code are publicly available at the Open Science Framework (<https://doi.org/10.17605/OSF.IO/8X4ST>).

Replication Datasets, Libraries, and R Environment

```
library(tidyverse)
```

Warning: package 'ggplot2' was built under R version 4.5.2

```
-- Attaching core tidyverse packages ----- tidyverse 2.0.0 --
v dplyr      1.1.4      v readr      2.1.5
v forcats    1.0.1      v stringr    1.5.2
v ggplot2    4.0.2      v tibble     3.3.0
v lubridate  1.9.4      v tidyr      1.3.1
v purrr      1.1.0
-- Conflicts ----- tidyverse_conflicts() --
x dplyr::filter() masks stats::filter()
x dplyr::lag()     masks stats::lag()
i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

```
library(modelsummary)
```

Warning: package 'modelsummary' was built under R version 4.5.2

```
library(texreg)
```

Warning: package 'texreg' was built under R version 4.5.2

Version: 1.39.4
Date: 2024-07-23
Author: Philip Leifeld (University of Manchester)

Consider submitting praise using the `praise` or `praise_interactive` functions.
Please cite the JSS article in your publications -- see `citation("texreg")`.

Attaching package: 'texreg'

The following object is masked from 'package:tidyr':

`extract`

```
library(kableExtra)
```

Warning: package 'kableExtra' was built under R version 4.5.2

Attaching package: 'kableExtra'

The following object is masked from 'package:dplyr':

`group_rows`

```
library(gt)
```

Warning: package 'gt' was built under R version 4.5.2

```
library(ggplot2)  
library(ggthemes)
```

Warning: package 'ggthemes' was built under R version 4.5.2

```
library(patchwork)
```

Warning: package 'patchwork' was built under R version 4.5.2

```
library(lme4)
```

Loading required package: Matrix

Attaching package: 'Matrix'

The following objects are masked from 'package:tidyr':

`expand`, `pack`, `unpack`

```
library(medflex)
```

Warning: package 'medflex' was built under R version 4.5.2

Loading required package: multcomp

Warning: package 'multcomp' was built under R version 4.5.2

Loading required package: mvtnorm

Loading required package: survival

Loading required package: TH.data

Warning: package 'TH.data' was built under R version 4.5.2

Loading required package: MASS

Attaching package: 'MASS'

The following object is masked from 'package:patchwork':

area

The following object is masked from 'package:dplyr':

select

Attaching package: 'TH.data'

The following object is masked from 'package:MASS':

geyser

medflex 0.6-11: Flexible Mediation Analysis Using Natural Effect Models

Please report bugs here: github.com/jmpsteen/medflex/issues

```
load("replication_ejpr.rda")
```

```
sessionInfo()
```

R version 4.5.1 (2025-06-13 ucrt)

Platform: x86_64-w64-mingw32/x64

Running under: Windows 11 x64 (build 26100)

Matrix products: default

LAPACK version 3.12.1

locale:

[1] LC_COLLATE=English_United States.utf8

[2] LC_CTYPE=English_United States.utf8

[3] LC_MONETARY=English_United States.utf8

[4] LC_NUMERIC=C

[5] LC_TIME=English_United States.utf8

```
time zone: Europe/London
tzcode source: internal
```

```
attached base packages:
```

```
[1] stats      graphics  grDevices  utils      datasets  methods    base
```

```
other attached packages:
```

```
[1] medflex_0.6-11      multcomp_1.4-30      TH.data_1.1-5        MASS_7.3-65
[5] survival_3.8-3       mvtnorm_1.3-3        lme4_1.1-37          Matrix_1.7-3
[9] patchwork_1.3.2      ggthemes_5.1.0       gt_1.3.0             kableExtra_1.4.0
[13] texreg_1.39.4        modelsummary_2.5.0   lubridate_1.9.4      forcats_1.0.1
[17] stringr_1.5.2        dplyr_1.1.4          purrr_1.1.0          readr_2.1.5
[21] tidyr_1.3.1          tibble_3.3.0         ggplot2_4.0.2        tidyverse_2.0.0
```

```
loaded via a namespace (and not attached):
```

```
[1] gtable_0.3.6         xfun_0.56            lattice_0.22-7        tzdb_0.5.0
[5] Rdpack_2.6.4         vctrs_0.6.5          tools_4.5.1           generics_0.1.4
[9] sandwich_3.1-1       pkgconfig_2.0.3      data.table_1.17.8     RColorBrewer_1.1-3
[13] S7_0.2.0             lifecycle_1.0.4      compiler_4.5.1        farver_2.1.2
[17] textshaping_1.0.4    tinytex_0.57         codetools_0.2-20     carData_3.0-5
[21] htmltools_0.5.8.1    yaml_2.3.10          Formula_1.2-5         car_3.1-3
[25] nloptr_2.2.1         pillar_1.11.1        reformulas_0.4.2      abind_1.4-8
[29] boot_1.3-31          nlme_3.1-168         tidyselect_1.2.1      digest_0.6.37
[33] stringi_1.8.7        splines_4.5.1        fastmap_1.2.0         grid_4.5.1
[37] cli_3.6.5            magrittr_2.0.4        withr_3.0.2           scales_1.4.0
[41] timechange_0.3.0     rmarkdown_2.30       httr_1.4.7            zoo_1.8-14
[45] hms_1.1.4            evaluate_1.0.5        knitr_1.50            rbibutils_2.3
[49] viridisLite_0.4.2    rlang_1.1.6          Rcpp_1.1.0            glue_1.8.0
[53] xml2_1.4.0           svglite_2.2.2         rstudioapi_0.17.1     minqa_1.2.8
[57] jsonlite_2.0.0       R6_2.6.1             tables_0.9.31         systemfonts_1.3.1
[61] fs_1.6.6
```

Reproducing Figures and Tables from Original Saved Results (in the order they appear in the text)

Figure 2

```
re.df <- wk.df %>%
  group_by(cty, year_f, type2) %>%
  tally(wt = weight) %>%
  pivot_wider(names_from = type2, values_from = n)

re.df$total <- re.df$Religious + re.df$Rational + re.df$Heterodox
re.df$Religious <- re.df$Religious/re.df$total
re.df$Rational <- re.df$Rational/re.df$total
re.df$Heterodox <- re.df$Heterodox/re.df$total

re.df <- re.df[, -c(6,7)]
re.df <- re.df %>%
  pivot_longer(
```

```

cols = c("Religious", "Rational", "Heterodox" ),
names_to = "Type",
values_to = "Share")

re.df$cty <- as.character(re.df$cty)

re.df$cty <- ifelse(re.df$cty == "United Kingdom of Great Britain and Northern Ireland",
                    "United Kingdom", re.df$cty)
re.df$cty <- ifelse(re.df$cty == "Russian Federation",
                    "Russia", re.df$cty)
re.df$Type <- ifelse(re.df$Type == "Rational",
                    "Nonbeliever", re.df$Type)

ggplot(re.df, aes(year_f, Share)) +
  geom_point(aes(shape = factor(re.df$Type))) +
  facet_wrap(~ cty, nrow = 3) + theme_minimal() +
  xlab("Year") + ylab("Three Belief Types (%)") +
  scale_shape_manual(values = c('Heterodox' = 17, 'Nonbeliever' = 1, 'Religious' = 3)) +
  theme(legend.title = element_blank(), legend.position="bottom", axis.text = element_text(size=6))

```

Warning: Removed 3 rows containing missing values or values outside the scale range (`geom\_point()`).

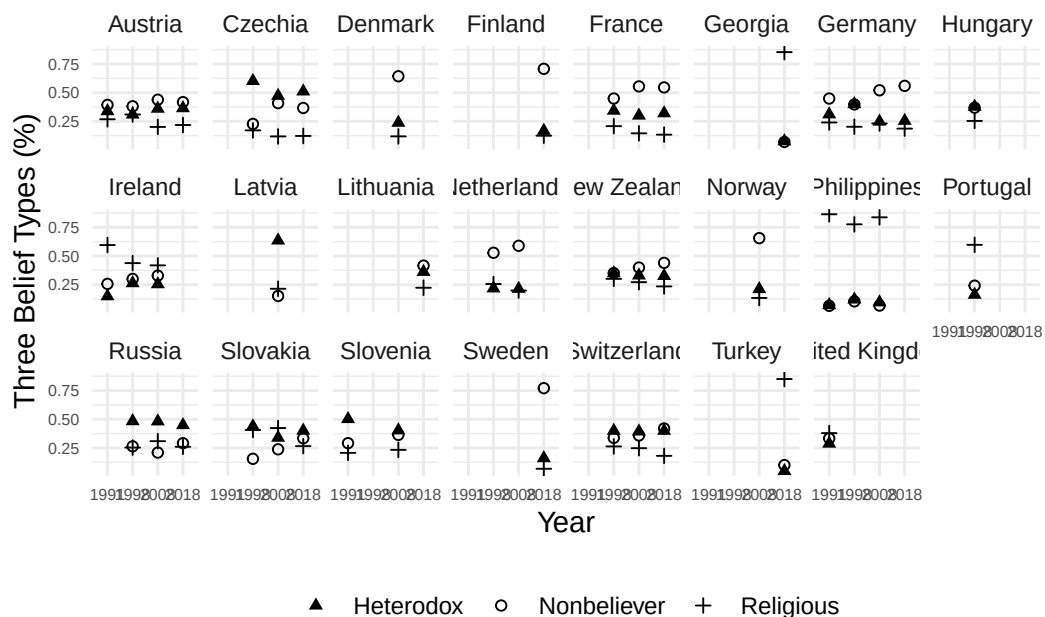


Table 1

```

models1 <- list(
  "M1 (random intercept)" = t1m1,
  "M2 (random intercept)" = t1m2,
  "M3 (random intercept)" = t1m3,
  "M4 (random intercept)" = t1m4,

```

```

    "M5 (random intercept)"      = t1m5
  )

modelsummary(models1, stars = T,
             title = "Vote (0 = Not Voted)")

```

```
screenreg(list(t1m1, t1m2, t1m3, t1m4, t1m5))
```

Warning in vcov.merMod(model, useScale = FALSE, ...): variance-covariance matrix computed from finite-d not positive definite or contains NA values: falling back to var-cov estimated from RX

	Model 1	Model 2	Model 3	Model 4	Model 5
(Intercept)	1.61 *** (0.17)	-2.37 *** (0.21)	-1.67 *** (0.22)	-46.71 *** (8.28)	-46.60 *** (3.90)
type2_muRational	-0.04 (0.04)	0.07 (0.04)	0.08 * (0.04)	0.08 * (0.04)	
type2_muHeterodox	-0.17 *** (0.04)	0.04 (0.04)	0.05 (0.04)	0.04 (0.04)	
sexM		0.04 (0.03)	0.03 (0.03)	0.04 (0.03)	0.04 (0.03)
edu		0.25 *** (0.01)	0.29 *** (0.01)	0.27 *** (0.01)	0.27 *** (0.01)
age_g20-29		1.64 *** (0.09)	1.66 *** (0.09)	1.55 *** (0.09)	1.55 *** (0.09)
age_g30-39		2.08 *** (0.09)	2.10 *** (0.09)	1.98 *** (0.09)	1.98 *** (0.09)
age_g40-49		2.48 *** (0.09)	2.52 *** (0.09)	2.41 *** (0.09)	2.41 *** (0.09)
age_g50-59		2.69 *** (0.09)	2.75 *** (0.09)	2.64 *** (0.09)	2.64 *** (0.10)
age_g60-69		3.12 *** (0.10)	3.19 *** (0.10)	3.09 *** (0.10)	3.09 *** (0.10)
age_g70 post		3.25 *** (0.10)	3.35 *** (0.10)	3.25 *** (0.10)	3.26 *** (0.10)
happy		0.24 *** (0.02)	0.25 *** (0.02)	0.29 *** (0.02)	0.29 *** (0.02)
year_f2008			-0.84 *** (0.08)	-2.58 *** (0.34)	-2.57 *** (0.33)
year_f2018			-1.02 *** (0.08)	-3.01 *** (0.36)	-3.01 *** (0.35)
log(pop)				0.84 (0.45)	0.84 ** (0.31)
urban				-0.03 (0.03)	-0.03 (0.03)
log(gdp)				3.60 *** (0.42)	3.60 *** (0.42)
as.factor(v2x_regime)2				0.30 (2.21)	0.31 (1.82)
as.factor(v2x_regime)3				-3.40 (2.01)	-3.39 * (1.66)

post_comm				0.95 (1.26)	0.93 (1.21)
secular_mu					0.06 (0.04)

AIC	34690.49	30696.80	30535.36	29759.56	29759.16
BIC	34724.76	30807.67	30663.30	29937.89	29929.00
Log Likelihood	-17341.25	-15335.40	-15252.68	-14858.78	-14859.58
Num. obs.	38821	37382	37382	36025	36025
Num. groups: cty	19	19	19	19	19
Var: cty (Intercept)	0.52	0.60	0.58	3.01	3.01
=====					
*** p < 0.001; ** p < 0.01; * p < 0.05					

Figure 3

```
models3 <- list(
  "M6: Baseline model" = f3m6,
  "M7: Individual-level controls added" = f3m7,
  "M8: Survey waves added" = f3m8,
  "M9: Country-level controls added" = f3m9
)

cm = c(
  "type2_muHeterodox" = "Heterodox",
  "type2_muRational" = "Nonbeliever")

b <- list(geom_vline(xintercept = 0, linetype = "dashed", color = "red"),
  annotate("rect", alpha = .1,
    xmin = -.35, xmax = 0,
    ymin = -Inf, ymax = Inf))

modelplot(models3, color = "black", coef_map = cm, background = b) + facet_grid(~ model)
```

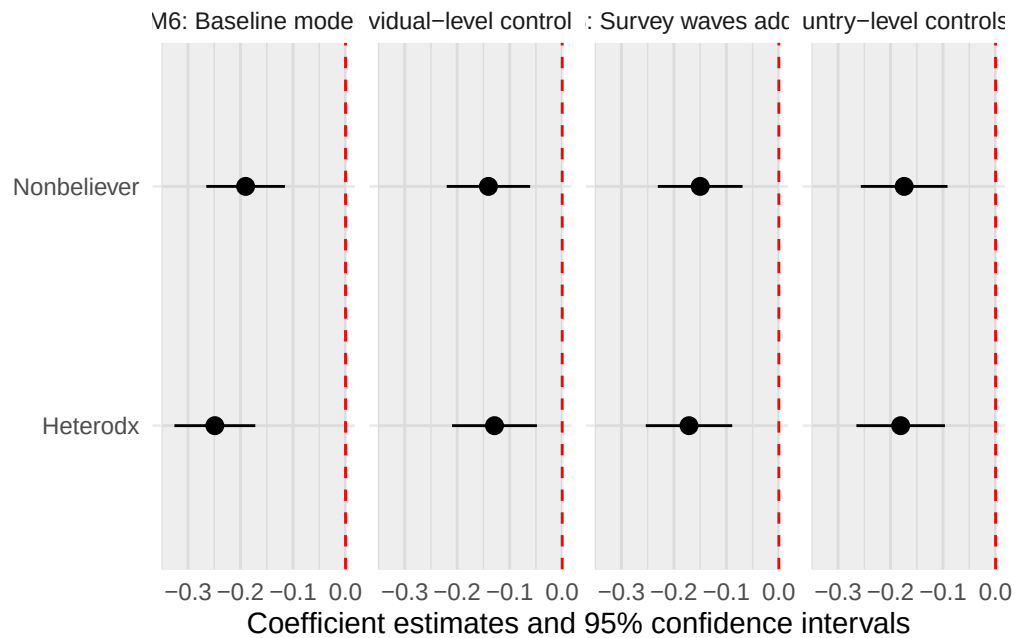


Table 2

```
modelm <- list(
  "trust pol" = m1,
  "science" = m2,
  "trust soc" = m3,
  "Out ptrust" = o1,
  "Out science" = o2,
  "Out strust" = o3
)

modelsummary(modelm, stars = T, title = "Two stage mediation")

screenreg(list(m1, m2, m3), digits = 3)
```

	Model 1	Model 2	Model 3
(Intercept)	0.575 *** (0.139)	1.654 * (0.754)	1.614 * (0.725)
type2_muRational	-0.057 *** (0.001)	0.859 *** (0.013)	0.022 * (0.009)
type2_muHeterodox	-0.046 *** (0.001)	0.524 *** (0.013)	0.001 (0.009)
sexM	-0.000 (0.001)	0.049 *** (0.010)	0.001 (0.007)
edu	0.004 *** (0.000)	0.077 *** (0.004)	0.066 *** (0.003)
age_g20-29	-0.016 ***		-0.098 ***

	(0.003)		(0.019)
age_g30-39	-0.021 ***	-0.022	-0.086 ***
	(0.003)	(0.016)	(0.019)
age_g40-49	-0.018 ***	-0.075 ***	-0.029
	(0.003)	(0.016)	(0.019)
age_g50-59	-0.016 ***	-0.105 ***	-0.018
	(0.003)	(0.016)	(0.019)
age_g60-69	-0.005	-0.211 ***	-0.030
	(0.003)	(0.017)	(0.020)
age_g70 post	0.006	-0.380 ***	-0.029
	(0.003)	(0.019)	(0.020)
year_f1998	-0.018 ***		
	(0.002)		
year_f2008	-0.021 ***	0.179 ***	-0.085 ***
	(0.004)	(0.029)	(0.021)
year_f2018	-0.010 *	0.024	-0.047 *
	(0.005)	(0.032)	(0.023)
happy	0.030 ***	-0.007	0.161 ***
	(0.001)	(0.007)	(0.005)
log(pop)	0.000	0.051	-0.057
	(0.007)	(0.037)	(0.037)
urban	-0.001 ***	0.014 ***	0.000
	(0.000)	(0.003)	(0.002)
log(gdp)	0.010 **	-0.107 ***	0.103 ***
	(0.003)	(0.027)	(0.019)
as.factor(v2x_regime)2	0.000	0.257 ***	0.057
	(0.005)	(0.047)	(0.033)
as.factor(v2x_regime)3	-0.008	0.413 ***	0.142
	(0.027)	(0.123)	(0.121)
post_comm	-0.038	-0.069	-0.151
	(0.025)	(0.111)	(0.112)
age_g20 pre		0.015	
		(0.028)	

AIC	-67572.197	156687.511	114590.920
BIC	-67364.645	156882.093	114785.011
Log Likelihood	33809.099	-78321.756	-57273.460
Num. obs.	61329	51257	50127
Num. groups: cty	23	22	20
Var: cty (Intercept)	0.002	0.037	0.039
Var: Residual	0.018	1.134	0.525

*** p < 0.001; ** p < 0.01; * p < 0.05

```
screenreg(list(o1, o2, o3), digits = 3)
```

Warning in vcov.merMod(model, useScale = FALSE, ...): variance-covariance matrix computed from finite-differences is not positive definite or contains NA values: falling back to var-cov estimated from RX

	Model 1	Model 2	Model 3
--	---------	---------	---------

(Intercept)	-49.561 *** (9.507)	-45.302 *** (8.271)	-51.179 *** (5.950)
type2_muRational	0.146 *** (0.042)	0.020 (0.045)	0.053 (0.044)
type2_muHeterodox	0.089 * (0.041)	0.010 (0.043)	0.052 (0.043)
trust_mu5	1.123 *** (0.108)		
sexM	0.040 (0.030)	0.010 (0.031)	0.022 (0.032)
edu	0.267 *** (0.012)	0.256 *** (0.013)	0.260 *** (0.013)
age_g20-29	1.576 *** (0.094)		1.638 *** (0.101)
age_g30-39	2.006 *** (0.095)	0.416 *** (0.046)	2.036 *** (0.101)
age_g40-49	2.448 *** (0.096)	0.831 *** (0.048)	2.476 *** (0.102)
age_g50-59	2.676 *** (0.097)	1.086 *** (0.051)	2.704 *** (0.103)
age_g60-69	3.109 *** (0.101)	1.521 *** (0.058)	3.152 *** (0.107)
age_g70 post	3.265 *** (0.104)	1.735 *** (0.065)	3.326 *** (0.111)
year_f2008	-2.616 *** (0.362)		
year_f2018	-3.058 *** (0.384)	-0.400 *** (0.049)	-0.461 *** (0.046)
happy	0.258 *** (0.024)	0.301 *** (0.024)	0.252 *** (0.025)
log(pop)	0.946 (0.500)	0.761 (0.439)	0.670 (0.361)
urban	-0.040 (0.032)	-0.031 (0.031)	-0.030 (0.031)
log(gdp)	3.737 *** (0.461)	3.519 *** (0.424)	4.117 *** (0.440)
as.factor(v2x_regime)2	0.461 (2.364)	0.027 (2.146)	-2.045 (2.003)
as.factor(v2x_regime)3	-3.374 (2.104)	-3.527 (1.955)	-4.719 ** (1.761)
post_comm	0.965 (1.325)	0.835 (1.231)	1.250 (1.121)
sc1		0.054 *** (0.014)	
age_g20 pre		-1.662 *** (0.101)	
trust_social			0.179 *** (0.021)

AIC	29318.118	26748.893	26005.640
BIC	29504.765	26924.925	26180.473
Log Likelihood	-14637.059	-13353.447	-12981.820
Num. obs.	35737	32288	30497
Num. groups: cty	19	19	17

Var: cty (Intercept)	3.325	2.831	2.434
----------------------	-------	-------	-------

=====

*** p < 0.001; ** p < 0.01; * p < 0.05

Figure 4

```

r1 <- summary(mf_m1)$coefficients
r2 <- summary(mf_m2)$coefficients
r3 <- summary(mf_m3)$coefficients

r1df <- r2df <- r3df <- data.frame(matrix(NA, nrow = 4, ncol = 7))
colnames(r1df) <- colnames(r2df) <- colnames(r3df) <- c("term",
  "model",
  "estimate",
  "std.error",
  "conf.low",
  "conf.high",
  "p.value")

r1df$term <- c("Rational, direct", "Heterodox, direct", "Rational, indirect", "Heterodox, indirect")
r1df$model <- rep("Political trust", 4)
r1df$estimate <- r1[2:5,1]
r1df[,4] <- r1[2:5,2]
r1df[,5] <- r1[2:5,1] - 1.645 * r1[2:5,2]
r1df[,6] <- r1[2:5,1] + 1.645 * r1[2:5,2]
r1df[,7] <- r1[2:5,4]

r2df$term <- c("Rational, direct", "Heterodox, direct", "Rational, indirect", "Heterodox, indirect")
r2df$model <- rep("Anti-science", 4)
r2df$estimate <- r2[2:5,1]
r2df[,4] <- r2[2:5,2]
r2df[,5] <- r2[2:5,1] - 1.645 * r2[2:5,2]
r2df[,6] <- r2[2:5,1] + 1.645 * r2[2:5,2]
r2df[,7] <- r2[2:5,4]

r3df$term <- c("Rational, direct", "Heterodox, direct", "Rational, indirect", "Heterodox, indirect")
r3df$model <- rep("Generalized trust", 4)
r3df$estimate <- r3[2:5,1]
r3df[,4] <- r3[2:5,2]
r3df[,5] <- r3[2:5,1] - 1.645 * r3[2:5,2]
r3df[,6] <- r3[2:5,1] + 1.645 * r3[2:5,2]
r3df[,7] <- r3[2:5,4]

p1 <- ggplot(aes(estimate, term), data = r1df) +
  geom_point() +
  geom_pointrange(aes(xmin = conf.low, xmax = conf.high)) +
  # add in a dotted line at zero
  geom_vline(xintercept = 0, lty = 2) +
  labs(x = NULL, y = NULL,
    title = "via institutional trust") +
  scale_y_discrete(labels=c("Rational, indirect" = "Nonbeliever\nIndirect",
    "Rational, direct" = "Nonbeliever\nDirect",

```

```

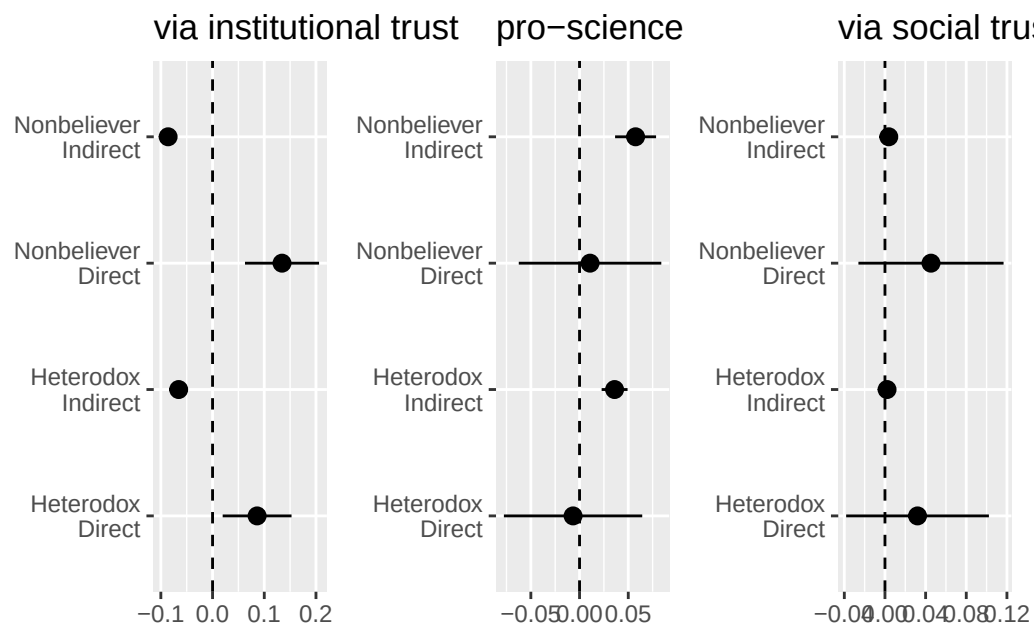
      "Heterodox, indirect" = "Heterodox\nIndirect",
      "Heterodox, direct" = "Heterodox\nDirect"))

p2 <-
  ggplot(aes(estimate, term), data = r2df) +
    geom_point() +
    geom_pointrange(aes(xmin = conf.low, xmax = conf.high)) +
    # add in a dotted line at zero
    geom_vline(xintercept = 0, lty = 2) +
    labs(x = NULL, y = NULL,
         title = "pro-science") +
    scale_y_discrete(labels=c("Rational, indirect" = "Nonbeliever\nIndirect",
                              "Rational, direct" = "Nonbeliever\nDirect",
                              "Heterodox, indirect" = "Heterodox\nIndirect",
                              "Heterodox, direct" = "Heterodox\nDirect"))

p3 <-
  ggplot(aes(estimate, term), data = r3df) +
    geom_point() +
    geom_pointrange(aes(xmin = conf.low, xmax = conf.high)) +
    # add in a dotted line at zero
    geom_vline(xintercept = 0, lty = 2) +
    labs(x = NULL, y = NULL,
         title = "via social trust") +
    scale_y_discrete(labels=c("Rational, indirect" = "Nonbeliever\nIndirect",
                              "Rational, direct" = "Nonbeliever\nDirect",
                              "Heterodox, indirect" = "Heterodox\nIndirect",
                              "Heterodox, direct" = "Heterodox\nDirect"))

p1 + p2 + p3

```



Replicating all analysis in the order they appear in the text)

Codes for Replicating Analysis in Table 1

```
t1m1 <- glmer(vote ~ type2_mu + (1 | cty),
  data = wk.df, family = binomial,
  control = glmerControl(optimizer = "bobyqa"),
  weights = weight)
```

```
summary(t1m1)
```

```
Generalized linear mixed model fit by maximum likelihood (Laplace
Approximation) [glmerMod]
Family: binomial ( logit )
Formula: vote ~ type2_mu + (1 | cty)
Data: wk.df
Weights: weight
Control: glmerControl(optimizer = "bobyqa")
```

AIC	BIC	logLik	-2*log(L)	df.resid
34690.5	34724.8	-17341.2	34682.5	38817

Scaled residuals:

Min	1Q	Median	3Q	Max
-6.7833	0.2395	0.3482	0.5129	2.0674

Random effects:

Groups	Name	Variance	Std.Dev.
cty	(Intercept)	0.5246	0.7243

Number of obs: 38821, groups: cty, 19

Fixed effects:

	Estimate	Std. Error	z value	Pr(> z)
(Intercept)	1.60657	0.16765	9.583	< 2e-16 ***
type2_muRational	-0.03626	0.03718	-0.975	0.33
type2_muHeterodox	-0.17352	0.03673	-4.724	2.31e-06 ***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Correlation of Fixed Effects:

	(Intr)	typ2_R
type2_mRtnl	-0.132	
typ2_mHtrdx	-0.126	0.620

```
t1m2 <- glmer(vote ~ type2_mu + sex + edu + age_g + happy + (1 | cty),
  data = wk.df, family = binomial,
  control = glmerControl(optimizer = "bobyqa"),
  weights = weight)
```

```
summary(t1m2)
```

```
Generalized linear mixed model fit by maximum likelihood (Laplace
Approximation) [glmerMod]
Family: binomial ( logit )
Formula: vote ~ type2_mu + sex + edu + age_g + happy + (1 | cty)
Data: wk.df
Weights: weight
Control: glmerControl(optimizer = "bobyqa")
```

AIC	BIC	logLik	-2*log(L)	df.resid
30696.8	30807.7	-15335.4	30670.8	37369

Scaled residuals:

Min	1Q	Median	3Q	Max
-8.6867	0.1748	0.3003	0.4754	4.5288

Random effects:

Groups	Name	Variance	Std.Dev.
cty	(Intercept)	0.6003	0.7748

Number of obs: 37382, groups: cty, 19

Fixed effects:

	Estimate	Std. Error	z value	Pr(> z)
(Intercept)	-2.37056	0.21402	-11.076	<2e-16 ***
type2_muRational	0.06780	0.04059	1.670	0.0949 .
type2_muHeterodox	0.04323	0.03973	1.088	0.2765
sexM	0.03576	0.02935	1.218	0.2230
edu	0.25330	0.01147	22.080	<2e-16 ***
age_g20-29	1.64461	0.09103	18.067	<2e-16 ***
age_g30-39	2.07975	0.09148	22.736	<2e-16 ***
age_g40-49	2.48037	0.09264	26.774	<2e-16 ***
age_g50-59	2.69429	0.09363	28.775	<2e-16 ***
age_g60-69	3.12176	0.09750	32.018	<2e-16 ***
age_g70 post	3.24987	0.10081	32.239	<2e-16 ***
happy	0.23849	0.02264	10.533	<2e-16 ***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Correlation of Fixed Effects:

	(Intr)	typ2_R	typ2_H	sexM	edu	a_20-2	a_30-3	a_40-4	a_50-5
type2_mRtnl	-0.115								
typ2_mHtrdx	-0.136	0.619							
sexM	-0.068	-0.144	-0.009						
edu	-0.106	-0.080	-0.026	0.031					
age_g20-29	-0.374	0.004	0.011	0.015	-0.092				
age_g30-39	-0.381	0.010	0.019	0.017	-0.089	0.888			
age_g40-49	-0.388	0.023	0.030	0.010	-0.066	0.876	0.876		
age_g50-59	-0.395	0.026	0.041	0.020	-0.035	0.866	0.866	0.859	
age_g60-69	-0.388	0.038	0.063	0.024	-0.004	0.831	0.831	0.825	0.821
age_g70post	-0.387	0.058	0.090	0.033	0.027	0.801	0.802	0.798	0.795
happy	-0.335	0.053	0.061	0.011	-0.088	0.036	0.053	0.073	0.086
	a_60-6	ag_70p							

```

type2_mRtnl
typ2_mHtrdx
sexM
edu
age_g20-29
age_g30-39
age_g40-49
age_g50-59
age_g60-69
age_g70post  0.769
happy        0.083  0.093

```

```

t1m3 <- glmer(vote ~ type2_mu + sex + edu + age_g + year_f + happy + (1 | cty),
              data = wk.df, family = binomial,
              control = glmerControl(optimizer = "bobyqa"),
              weights = weight)

```

```
summary(t1m3)
```

```

Generalized linear mixed model fit by maximum likelihood (Laplace
Approximation) [glmerMod]
Family: binomial ( logit )
Formula: vote ~ type2_mu + sex + edu + age_g + year_f + happy + (1 | cty)
Data: wk.df
Weights: weight
Control: glmerControl(optimizer = "bobyqa")

```

AIC	BIC	logLik	-2*log(L)	df.resid
30535.4	30663.3	-15252.7	30505.4	37367

Scaled residuals:

Min	1Q	Median	3Q	Max
-9.7400	0.1687	0.2974	0.4737	4.4421

Random effects:

Groups Name	Variance	Std.Dev.
cty (Intercept)	0.5804	0.7619

Number of obs: 37382, groups: cty, 19

Fixed effects:

	Estimate	Std. Error	z value	Pr(> z)
(Intercept)	-1.67152	0.22041	-7.584	3.36e-14 ***
type2_muRational	0.08451	0.04073	2.075	0.038 *
type2_muHeterodox	0.04856	0.03987	1.218	0.223
sexM	0.03305	0.02944	1.123	0.262
edu	0.28510	0.01196	23.842	< 2e-16 ***
age_g20-29	1.65540	0.09167	18.058	< 2e-16 ***
age_g30-39	2.09653	0.09215	22.751	< 2e-16 ***
age_g40-49	2.51992	0.09336	26.993	< 2e-16 ***
age_g50-59	2.75003	0.09442	29.124	< 2e-16 ***
age_g60-69	3.18880	0.09836	32.421	< 2e-16 ***
age_g70 post	3.34715	0.10177	32.888	< 2e-16 ***
year_f2008	-0.83907	0.07510	-11.172	< 2e-16 ***

```

year_f2018      -1.02224    0.08085 -12.643 < 2e-16 ***
happy           0.25268    0.02274  11.110 < 2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

```

Correlation matrix not shown by default, as $p = 14 > 12$.
 Use `print(x, correlation=TRUE)` or
`vcov(x)` if you need it

```

t1m4 <- glmer(vote ~ type2_mu + sex + edu + age_g + year_f + happy + (1 | cty) +
              log(pop) + urban + log(gdp) + as.factor(v2x_regime) + post_comm,
              data = wk.df, family = binomial,
              control = glmerControl(optimizer = "bobyqa"),
              weights = weight)

```

```
summary(t1m4)
```

Warning in `vcov.merMod(object, use.hessian = use.hessian)`: variance-covariance matrix computed from fisher information not positive definite or contains NA values: falling back to var-cov estimated from RX

Warning in `vcov.merMod(object, correlation = correlation, sigm = sig)`: variance-covariance matrix computed from fisher information not positive definite or contains NA values: falling back to var-cov estimated from RX

Generalized linear mixed model fit by maximum likelihood (Laplace

Approximation) [glmerMod]

Family: binomial (logit)

Formula: `vote ~ type2_mu + sex + edu + age_g + year_f + happy + (1 | cty) + log(pop) + urban + log(gdp) + as.factor(v2x_regime) + post_comm`

Data: wk.df

Weights: weight

Control: `glmerControl(optimizer = "bobyqa")`

AIC	BIC	logLik	-2*log(L)	df.resid
29759.6	29937.9	-14858.8	29717.6	36004

Scaled residuals:

Min	1Q	Median	3Q	Max
-9.3255	0.1634	0.2960	0.4824	4.2723

Random effects:

Groups Name	Variance	Std.Dev.
cty (Intercept)	3.009	1.735

Number of obs: 36025, groups: cty, 19

Fixed effects:

	Estimate	Std. Error	z value	Pr(> z)
(Intercept)	-46.70952	8.27778	-5.643	1.67e-08 ***
type2_muRational	0.08357	0.04034	2.071	0.0383 *
type2_muHeterodox	0.03845	0.03957	0.972	0.3312
sexM	0.03547	0.02918	1.216	0.2241
edu	0.27148	0.01188	22.860	< 2e-16 ***


```

age_g20-29      1.54527    0.09153   16.883 < 2e-16 ***
age_g30-39      1.97827    0.09193   21.520 < 2e-16 ***
age_g40-49      2.41277    0.09305   25.929 < 2e-16 ***
age_g50-59      2.63612    0.09395   28.058 < 2e-16 ***
age_g60-69      3.08734    0.09770   31.600 < 2e-16 ***
age_g70 post    3.25038    0.10087   32.222 < 2e-16 ***
year_f2008     -2.58059    0.33702   -7.657 1.90e-14 ***
year_f2018     -3.01324    0.35550   -8.476 < 2e-16 ***
happy           0.29183    0.02272   12.842 < 2e-16 ***
log(pop)        0.84085    0.44966    1.870  0.0615 .
urban          -0.02807    0.03104   -0.904  0.3657
log(gdp)        3.60103    0.42029    8.568 < 2e-16 ***
as.factor(v2x_regime)2  0.29920    2.20710    0.136  0.8922
as.factor(v2x_regime)3 -3.39687    2.00709   -1.692  0.0906 .
post_comm       0.95421    1.26378    0.755  0.4502
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

```

Correlation matrix not shown by default, as $p = 20 > 12$.

Use `print(x, correlation=TRUE)` or
`vcov(x)` if you need it

optimizer (bobyqa) convergence code: 1 (bobyqa -- maximum number of function evaluations exceeded)
unable to evaluate scaled gradient
Model failed to converge: degenerate Hessian with 1 negative eigenvalues

```

t1m5 <- glmer(vote ~ secular_mu + sex + edu + age_g + year_f + happy + (1 | cty) +
              log(pop) + urban + log(gdp) + as.factor(v2x_regime) + post_comm,
              data = wk.df, family = binomial,
              control = glmerControl(optimizer = "bobyqa"),
              weights = weight)

```

```
summary(t1m5)
```

Generalized linear mixed model fit by maximum likelihood (Laplace

Approximation) [glmerMod]

Family: binomial (logit)

Formula: vote ~ secular_mu + sex + edu + age_g + year_f + happy + (1 |
cty) + log(pop) + urban + log(gdp) + as.factor(v2x_regime) + post_comm

Data: wk.df

Weights: weight

Control: glmerControl(optimizer = "bobyqa")

AIC	BIC	logLik	-2*log(L)	df.resid
29759.2	29929.0	-14859.6	29719.2	36005

Scaled residuals:

Min	1Q	Median	3Q	Max
-9.4525	0.1635	0.2962	0.4823	4.3441

Random effects:

```

Groups Name      Variance Std.Dev.
cty   (Intercept) 3.007    1.734
Number of obs: 36025, groups: cty, 19

```

Fixed effects:

	Estimate	Std. Error	z value	Pr(> z)
(Intercept)	-46.60034	3.90062	-11.947	< 2e-16 ***
secular_mu	0.05990	0.03670	1.632	0.10265
sexM	0.04145	0.02942	1.409	0.15880
edu	0.27244	0.01209	22.533	< 2e-16 ***
age_g20-29	1.54660	0.09328	16.580	< 2e-16 ***
age_g30-39	1.97966	0.09370	21.129	< 2e-16 ***
age_g40-49	2.41370	0.09486	25.445	< 2e-16 ***
age_g50-59	2.63806	0.09588	27.515	< 2e-16 ***
age_g60-69	3.09088	0.09980	30.969	< 2e-16 ***
age_g70 post	3.25515	0.10298	31.610	< 2e-16 ***
year_f2008	-2.57384	0.33070	-7.783	7.09e-15 ***
year_f2018	-3.00659	0.34541	-8.704	< 2e-16 ***
happy	0.29190	0.02318	12.593	< 2e-16 ***
log(pop)	0.83834	0.30556	2.744	0.00608 **
urban	-0.02847	0.03056	-0.932	0.35154
log(gdp)	3.59624	0.42367	8.488	< 2e-16 ***
as.factor(v2x_regime)2	0.30864	1.81909	0.170	0.86527
as.factor(v2x_regime)3	-3.39186	1.65537	-2.049	0.04046 *
post_comm	0.93402	1.20649	0.774	0.43883

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Correlation matrix not shown by default, as p = 19 > 12.

Use `print(x, correlation=TRUE)` or
`vcov(x)` if you need it

optimizer (bobyqa) convergence code: 1 (bobyqa -- maximum number of function evaluations exceeded)
Model failed to converge with max|grad| = 0.0168212 (tol = 0.002, component 1)

Codes for Replicating Analysis in Figure 2

```

f3m6 <- glmer(party_m ~ type2_mu + (1 | cty),
              data = wk.dfm, family = binomial,
              control = glmerControl(optimizer = "bobyqa"),
              weights = weight)

```

```
summary(f3m6)
```

```

Generalized linear mixed model fit by maximum likelihood (Laplace
Approximation) [glmerMod]
Family: binomial ( logit )
Formula: party_m ~ type2_mu + (1 | cty)
Data: wk.dfm
Weights: weight

```

```
Control: glmerControl(optimizer = "bobyqa")
```

AIC	BIC	logLik	-2*log(L)	df.resid
31048.3	31081.5	-15520.2	31040.3	29550

Scaled residuals:

Min	1Q	Median	3Q	Max
-6.7536	-0.7205	0.4392	0.6079	2.6153

Random effects:

Groups	Name	Variance	Std.Dev.
cty	(Intercept)	0.793	0.8905

Number of obs: 29554, groups: cty, 19

Fixed effects:

	Estimate	Std. Error	z value	Pr(> z)
(Intercept)	1.19100	0.20535	5.800	6.64e-09 ***
type2_muRational	-0.19034	0.03822	-4.980	6.35e-07 ***
type2_muHeterodox	-0.24895	0.03931	-6.332	2.41e-10 ***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Correlation of Fixed Effects:

	(Intr) typ2_R
type2_mRtnl	-0.114
typ2_mHtrdx	-0.109 0.640

```
f3m7 <- glmer(party_m ~ type2_mu + sex + edu + age_g + happy + (1 | cty),
              data = wk.dfm, family = binomial,
              control = glmerControl(optimizer = "bobyqa"),
              weights = weight)
```

```
summary(f3m7)
```

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) [glmerMod]

Family: binomial (logit)

Formula: party_m ~ type2_mu + sex + edu + age_g + happy + (1 | cty)

Data: wk.dfm

Weights: weight

Control: glmerControl(optimizer = "bobyqa")

AIC	BIC	logLik	-2*log(L)	df.resid
29076.4	29183.8	-14525.2	29050.4	28595

Scaled residuals:

Min	1Q	Median	3Q	Max
-8.0303	-0.6958	0.3827	0.5863	3.0468

Random effects:

Groups	Name	Variance	Std.Dev.
cty	(Intercept)	0.8087	0.8993

Number of obs: 28608, groups: cty, 19

Fixed effects:

	Estimate	Std. Error	z value	Pr(> z)	
(Intercept)	-1.70289	0.24786	-6.870	6.41e-12	***
type2_muRational	-0.14051	0.04057	-3.464	0.000533	***
type2_muHeterodox	-0.12901	0.04126	-3.127	0.001768	**
sexM	-0.02314	0.02944	-0.786	0.431808	
edu	0.17626	0.01090	16.167	< 2e-16	***
age_g20-29	1.27295	0.11383	11.183	< 2e-16	***
age_g30-39	1.54938	0.11343	13.660	< 2e-16	***
age_g40-49	1.70720	0.11333	15.064	< 2e-16	***
age_g50-59	1.88428	0.11371	16.571	< 2e-16	***
age_g60-69	2.08510	0.11496	18.138	< 2e-16	***
age_g70 post	2.29722	0.11746	19.557	< 2e-16	***
happy	0.18244	0.02331	7.825	5.06e-15	***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Correlation of Fixed Effects:

	(Intr)	typ2_R	typ2_H	sexM	edu	a_20-2	a_30-3	a_40-4	a_50-5
type2_mRtnl	-0.099								
typ2_mHtrdx	-0.121	0.638							
sexM	-0.057	-0.146	-0.004						
edu	-0.077	-0.099	-0.025	0.026					
age_g20-29	-0.411	-0.003	0.000	0.014	-0.093				
age_g30-39	-0.416	0.003	0.009	0.014	-0.100	0.910			
age_g40-49	-0.424	0.010	0.013	0.009	-0.082	0.910	0.915		
age_g50-59	-0.429	0.011	0.021	0.013	-0.055	0.905	0.910	0.912	
age_g60-69	-0.429	0.023	0.042	0.013	-0.032	0.893	0.899	0.902	0.900
age_g70post	-0.428	0.042	0.064	0.016	-0.004	0.872	0.877	0.881	0.880
happy	-0.300	0.053	0.068	0.000	-0.094	0.031	0.041	0.055	0.064
	a_60-6	ag_70p							
type2_mRtnl									
typ2_mHtrdx									
sexM									
edu									
age_g20-29									
age_g30-39									
age_g40-49									
age_g50-59									
age_g60-69									
age_g70post	0.873								
happy	0.061	0.070							

```
f3m8 <- glmer(party_m ~ type2_mu + sex + edu + age_g + year_f + happy + (1 | cty),
              data = wk.dfm, family = binomial,
              control = glmerControl(optimizer = "bobyqa"),
              weights = weight)
```

```
summary(f3m8)
```

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) [glmerMod]

```

Family: binomial ( logit )
Formula: party_m ~ type2_mu + sex + edu + age_g + year_f + happy + (1 |
      cty)
Data: wk.dfm
Weights: weight
Control: glmerControl(optimizer = "bobyqa")

```

AIC	BIC	logLik	-2*log(L)	df.resid
28256.9	28380.8	-14113.5	28226.9	28593

Scaled residuals:

Min	1Q	Median	3Q	Max
-7.6871	-0.6727	0.3650	0.5693	3.0301

Random effects:

Groups Name	Variance	Std.Dev.
cty (Intercept)	0.5841	0.7643

Number of obs: 28608, groups: cty, 19

Fixed effects:

	Estimate	Std. Error	z value	Pr(> z)
(Intercept)	-0.49823	0.23532	-2.117	0.034235 *
type2_muRational	-0.14989	0.04119	-3.639	0.000274 ***
type2_muHeterodox	-0.17121	0.04201	-4.075	4.59e-05 ***
sexM	-0.03092	0.02992	-1.033	0.301432
edu	0.14013	0.01149	12.198	< 2e-16 ***
age_g20-29	1.28555	0.11895	10.807	< 2e-16 ***
age_g30-39	1.56543	0.11856	13.204	< 2e-16 ***
age_g40-49	1.73730	0.11849	14.661	< 2e-16 ***
age_g50-59	1.89092	0.11895	15.897	< 2e-16 ***
age_g60-69	2.08632	0.12019	17.358	< 2e-16 ***
age_g70 post	2.30229	0.12270	18.764	< 2e-16 ***
year_f2008	-1.56040	0.08360	-18.664	< 2e-16 ***
year_f2018	-0.58377	0.09078	-6.430	1.27e-10 ***
happy	0.17894	0.02376	7.531	5.04e-14 ***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Correlation matrix not shown by default, as p = 14 > 12.

Use `print(x, correlation=TRUE)` or
`vcov(x)` if you need it

```

f3m9 <- glmer(party_m ~ type2_mu + sex + edu + age_g + year_f + happy + (1 | cty) +
      log(pop) + urban + log(gdp) + as.factor(v2x_regime) + post_comm,
      data = wk.dfm2, family = binomial,
      control = glmerControl(optimizer = "bobyqa"),
      weights = weight)

```

```
summary(f3m9)
```

Generalized linear mixed model fit by maximum likelihood (Laplace
 Approximation) [glmerMod]

```

Family: binomial ( logit )
Formula: party_m ~ type2_mu + sex + edu + age_g + year_f + happy + (1 |
      cty) + log(pop) + urban + log(gdp) + as.factor(v2x_regime) +      post_comm
Data: wk.dfm
Weights: weight
Control: glmerControl(optimizer = "bobyqa")

```

AIC	BIC	logLik	-2*log(L)	df.resid
27184.6	27357.5	-13571.3	27142.6	27794

Scaled residuals:

Min	1Q	Median	3Q	Max
-15.6307	-0.6683	0.3498	0.5719	3.2452

Random effects:

Groups Name	Variance	Std.Dev.
cty (Intercept)	27.34	5.229

Number of obs: 27815, groups: cty, 19

Fixed effects:

	Estimate	Std. Error	z value	Pr(> z)
(Intercept)	-98.77335	19.50444	-5.064	4.10e-07 ***
type2_muRational	-0.17407	0.04214	-4.131	3.61e-05 ***
type2_muHeterodox	-0.18073	0.04305	-4.198	2.69e-05 ***
sexM	-0.02787	0.03054	-0.913	0.3614
edu	0.13686	0.01180	11.599	< 2e-16 ***
age_g20-29	1.14942	0.12318	9.331	< 2e-16 ***
age_g30-39	1.41289	0.12276	11.509	< 2e-16 ***
age_g40-49	1.61924	0.12266	13.201	< 2e-16 ***
age_g50-59	1.75206	0.12311	14.232	< 2e-16 ***
age_g60-69	1.96164	0.12430	15.781	< 2e-16 ***
age_g70 post	2.19205	0.12666	17.306	< 2e-16 ***
year_f2008	-5.72740	0.57272	-10.000	< 2e-16 ***
year_f2018	-5.06962	0.58650	-8.644	< 2e-16 ***
happy	0.21651	0.02445	8.855	< 2e-16 ***
log(pop)	3.03512	1.23251	2.463	0.0138 *
urban	-0.42570	0.04814	-8.844	< 2e-16 ***
log(gdp)	8.51913	0.68709	12.399	< 2e-16 ***
as.factor(v2x_regime)2	1.00892	5.91067	0.171	0.8645
as.factor(v2x_regime)3	-6.16633	4.59103	-1.343	0.1792
post_comm	1.27044	3.63358	0.350	0.7266

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Correlation matrix not shown by default, as p = 20 > 12.

Use print(x, correlation=TRUE) or
vcov(x) if you need it

optimizer (bobyqa) convergence code: 1 (bobyqa -- maximum number of function evaluations exceeded)

Model failed to converge with max|grad| = 0.0251051 (tol = 0.002, component 1)

Model is nearly unidentifiable: large eigenvalue ratio

- Rescale variables?

Codes for Replicating Analysis in Table 2

```
m1 <- lmer(trust_mu5 ~ type2_mu + sex + edu + age_g + year_f + happy + (1 | cty) +
  log(pop) + urban + log(gdp) + as.factor(v2x_regime) + post_comm,
  data = wk.df, weights = weight)
```

```
summary(m1)
```

Linear mixed model fit by REML ['lmerMod']

Formula: trust_mu5 ~ type2_mu + sex + edu + age_g + year_f + happy + (1 |
cty) + log(pop) + urban + log(gdp) + as.factor(v2x_regime) + post_comm

Data: wk.df

Weights: weight

REML criterion at convergence: -67618.2

Scaled residuals:

Min	1Q	Median	3Q	Max
-8.9073	-0.5798	0.0278	0.6062	5.8724

Random effects:

Groups	Name	Variance	Std.Dev.
cty	(Intercept)	0.002111	0.04594
	Residual	0.017862	0.13365

Number of obs: 61329, groups: cty, 23

Fixed effects:

	Estimate	Std. Error	t value
(Intercept)	5.746e-01	1.386e-01	4.146
type2_muRational	-5.711e-02	1.468e-03	-38.900
type2_muHeterodox	-4.560e-02	1.481e-03	-30.779
sexM	-2.107e-05	1.081e-03	-0.019
edu	4.305e-03	4.021e-04	10.706
age_g20-29	-1.625e-02	3.129e-03	-5.194
age_g30-39	-2.064e-02	3.111e-03	-6.634
age_g40-49	-1.840e-02	3.127e-03	-5.884
age_g50-59	-1.608e-02	3.161e-03	-5.086
age_g60-69	-5.321e-03	3.219e-03	-1.653
age_g70 post	6.283e-03	3.326e-03	1.889
year_f1998	-1.798e-02	2.315e-03	-7.766
year_f2008	-2.143e-02	4.287e-03	-4.999
year_f2018	-1.048e-02	4.561e-03	-2.298
happy	2.961e-02	8.360e-04	35.412
log(pop)	1.204e-04	7.443e-03	0.016
urban	-1.370e-03	3.489e-04	-3.926
log(gdp)	9.685e-03	3.154e-03	3.071
as.factor(v2x_regime)2	1.583e-04	5.340e-03	0.030
as.factor(v2x_regime)3	-7.991e-03	2.651e-02	-0.301
post_comm	-3.806e-02	2.542e-02	-1.497

Correlation matrix not shown by default, as $p = 21 > 12$.

Use `print(x, correlation=TRUE)` or
`vcov(x)` if you need it

```
m2 <- lmer(sc1 ~ type2_mu + sex + edu + age_g + year_f + happy + (1 | cty) +  
          log(pop) + urban + log(gdp) + as.factor(v2x_regime) + post_comm,  
          data = wk.df, weights = weight)
```

```
summary(m2)
```

Linear mixed model fit by REML ['lmerMod']

Formula: `sc1 ~ type2_mu + sex + edu + age_g + year_f + happy + (1 | cty) +
 log(pop) + urban + log(gdp) + as.factor(v2x_regime) + post_comm`

Data: `wk.df`

Weights: `weight`

REML criterion at convergence: 156643.5

Scaled residuals:

Min	1Q	Median	3Q	Max
-8.3151	-0.6677	0.0974	0.7160	5.7954

Random effects:

Groups	Name	Variance	Std.Dev.
cty	(Intercept)	0.03654	0.1912
Residual		1.13353	1.0647

Number of obs: 51257, groups: cty, 22

Fixed effects:

	Estimate	Std. Error	t value
(Intercept)	1.654428	0.753901	2.194
type2_muRational	0.858939	0.013020	65.970
type2_muHeterodox	0.524017	0.013090	40.032
sexM	0.048839	0.009561	5.108
edu	0.077405	0.003622	21.372
age_g20 pre	0.014928	0.028159	0.530
age_g30-39	-0.022072	0.015563	-1.418
age_g40-49	-0.074703	0.015744	-4.745
age_g50-59	-0.104528	0.016367	-6.386
age_g60-69	-0.211451	0.017298	-12.224
age_g70 post	-0.379885	0.018994	-20.000
year_f2008	0.179245	0.029357	6.106
year_f2018	0.023972	0.032295	0.742
happy	-0.006815	0.007389	-0.922
log(pop)	0.051015	0.037412	1.364
urban	0.014069	0.002532	5.557
log(gdp)	-0.107469	0.026940	-3.989
as.factor(v2x_regime)2	0.256793	0.047176	5.443
as.factor(v2x_regime)3	0.413139	0.122987	3.359
post_comm	-0.068573	0.110680	-0.620

Correlation matrix not shown by default, as $p = 20 > 12$.

Use `print(x, correlation=TRUE)` or

vcov(x) if you need it

```
m3 <- lmer(trust_social ~ type2_mu + sex + edu + age_g + year_f + happy + (1 | cty) +
  log(pop) + urban + log(gdp) + as.factor(v2x_regime) + post_comm,
  data = wk.df, weights = weight)
```

```
summary(m3)
```

Linear mixed model fit by REML ['lmerMod']

Formula: trust_social ~ type2_mu + sex + edu + age_g + year_f + happy +
(1 | cty) + log(pop) + urban + log(gdp) + as.factor(v2x_regime) +
post_comm

Data: wk.df

Weights: weight

REML criterion at convergence: 114546.9

Scaled residuals:

Min	1Q	Median	3Q	Max
-6.7138	-0.6305	0.0712	0.6190	6.6094

Random effects:

Groups	Name	Variance	Std.Dev.
cty	(Intercept)	0.03864	0.1966
	Residual	0.52508	0.7246

Number of obs: 50127, groups: cty, 20

Fixed effects:

	Estimate	Std. Error	t value
(Intercept)	1.614e+00	7.248e-01	2.227
type2_muRational	2.171e-02	8.876e-03	2.446
type2_muHeterodox	1.267e-03	8.873e-03	0.143
sexM	1.438e-03	6.591e-03	0.218
edu	6.650e-02	2.531e-03	26.273
age_g20-29	-9.822e-02	1.909e-02	-5.145
age_g30-39	-8.606e-02	1.897e-02	-4.538
age_g40-49	-2.887e-02	1.900e-02	-1.519
age_g50-59	-1.843e-02	1.919e-02	-0.961
age_g60-69	-2.982e-02	1.952e-02	-1.528
age_g70 post	-2.923e-02	2.021e-02	-1.446
year_f2008	-8.517e-02	2.091e-02	-4.073
year_f2018	-4.725e-02	2.304e-02	-2.051
happy	1.608e-01	5.089e-03	31.610
log(pop)	-5.676e-02	3.718e-02	-1.527
urban	9.178e-05	2.009e-03	0.046
log(gdp)	1.030e-01	1.877e-02	5.489
as.factor(v2x_regime)2	5.665e-02	3.300e-02	1.717
as.factor(v2x_regime)3	1.415e-01	1.213e-01	1.167
post_comm	-1.513e-01	1.122e-01	-1.348

Correlation matrix not shown by default, as p = 20 > 12.

Use print(x, correlation=TRUE) or

vcov(x) if you need it

```
o1 <- glmer(vote ~ type2_mu + trust_mu5 + sex + edu + age_g + year_f + happy + (1 | cty) +  
            log(pop) + urban + log(gdp) + as.factor(v2x_regime) + post_comm,  
            data = wk.df, family = binomial,  
            control = glmerControl(optimizer = "bobyqa"),  
            weights = weight)
```

```
summary(o1)
```

Generalized linear mixed model fit by maximum likelihood (Laplace
Approximation) [glmerMod]

Family: binomial (logit)

Formula: vote ~ type2_mu + trust_mu5 + sex + edu + age_g + year_f + happy +
(1 | cty) + log(pop) + urban + log(gdp) + as.factor(v2x_regime) +
post_comm

Data: wk.df

Weights: weight

Control: glmerControl(optimizer = "bobyqa")

AIC	BIC	logLik	-2*log(L)	df.resid
29318.1	29504.8	-14637.1	29274.1	35715

Scaled residuals:

Min	1Q	Median	3Q	Max
-9.8697	0.1595	0.2942	0.4795	4.0371

Random effects:

Groups Name	Variance	Std.Dev.
cty (Intercept)	3.325	1.823

Number of obs: 35737, groups: cty, 19

Fixed effects:

	Estimate	Std. Error	z value	Pr(> z)
(Intercept)	-49.56133	9.50744	-5.213	1.86e-07 ***
type2_muRational	0.14556	0.04208	3.459	0.000542 ***
type2_muHeterodox	0.08890	0.04111	2.162	0.030595 *
trust_mu5	1.12304	0.10825	10.374	< 2e-16 ***
sexM	0.03978	0.03003	1.325	0.185239
edu	0.26686	0.01225	21.788	< 2e-16 ***
age_g20-29	1.57554	0.09423	16.721	< 2e-16 ***
age_g30-39	2.00619	0.09466	21.193	< 2e-16 ***
age_g40-49	2.44850	0.09589	25.533	< 2e-16 ***
age_g50-59	2.67642	0.09692	27.616	< 2e-16 ***
age_g60-69	3.10879	0.10083	30.831	< 2e-16 ***
age_g70 post	3.26527	0.10405	31.381	< 2e-16 ***
year_f2008	-2.61569	0.36208	-7.224	5.04e-13 ***
year_f2018	-3.05806	0.38369	-7.970	1.58e-15 ***
happy	0.25830	0.02366	10.916	< 2e-16 ***
log(pop)	0.94638	0.50032	1.892	0.058550 .
urban	-0.04019	0.03220	-1.248	0.211989
log(gdp)	3.73743	0.46099	8.107	5.17e-16 ***
as.factor(v2x_regime)2	0.46100	2.36422	0.195	0.845401

```
as.factor(v2x_regime)3 -3.37438    2.10411   -1.604  0.108778
post_comm            0.96536    1.32469    0.729  0.466159
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Correlation matrix not shown by default, as $p = 21 > 12$.
 Use `print(x, correlation=TRUE)` or
`vcov(x)` if you need it

optimizer (bobyqa) convergence code: 1 (bobyqa -- maximum number of function evaluations exceeded)
 Model failed to converge with $\max|\text{grad}| = 0.0237589$ (tol = 0.002, component 1)
 Model is nearly unidentifiable: large eigenvalue ratio
 - Rescale variables?

```
o2 <- glmer(vote ~ type2_mu + sc1 + sex + edu + age_g + year_f + happy + (1 | cty) +
  log(pop) + urban + log(gdp) + as.factor(v2x_regime) + post_comm,
  data = wk.df, family = binomial,
  control = glmerControl(optimizer = "bobyqa"),
  weights = weight)
```

```
summary(o2)
```

Warning in `vcov.merMod(object, use.hessian = use.hessian)`: variance-covariance matrix computed from finite differences
 not positive definite or contains NA values: falling back to var-cov estimated from RX

Warning in `vcov.merMod(object, correlation = correlation, sigma = sigma)`: variance-covariance matrix computed from finite differences
 not positive definite or contains NA values: falling back to var-cov estimated from RX

Generalized linear mixed model fit by maximum likelihood (Laplace
 Approximation) [glmerMod]
 Family: binomial (logit)
 Formula: vote ~ type2_mu + sc1 + sex + edu + age_g + year_f + happy +
 (1 | cty) + log(pop) + urban + log(gdp) + as.factor(v2x_regime) +
 post_comm
 Data: wk.df
 Weights: weight
 Control: glmerControl(optimizer = "bobyqa")

AIC	BIC	logLik	-2*log(L)	df.resid
26748.9	26924.9	-13353.4	26706.9	32267

Scaled residuals:

Min	1Q	Median	3Q	Max
-9.1712	0.1624	0.2941	0.4781	4.3597

Random effects:

Groups	Name	Variance	Std.Dev.
cty	(Intercept)	2.831	1.683

Number of obs: 32288, groups: cty, 19

Fixed effects:

	Estimate	Std. Error	z value	Pr(> z)	
(Intercept)	-45.302090	8.270916	-5.477	4.32e-08	***
type2_muRational	0.019887	0.044741	0.444	0.656683	
type2_muHeterodox	0.009675	0.042885	0.226	0.821510	
sc1	0.053804	0.014409	3.734	0.000188	***
sexM	0.009721	0.030960	0.314	0.753534	
edu	0.255976	0.012555	20.388	< 2e-16	***
age_g20 pre	-1.662140	0.100560	-16.529	< 2e-16	***
age_g30-39	0.415762	0.046208	8.998	< 2e-16	***
age_g40-49	0.831013	0.048361	17.184	< 2e-16	***
age_g50-59	1.085667	0.050648	21.436	< 2e-16	***
age_g60-69	1.521445	0.058073	26.199	< 2e-16	***
age_g70 post	1.734790	0.065240	26.591	< 2e-16	***
year_f2018	-0.399506	0.049060	-8.143	3.85e-16	***
happy	0.301270	0.024140	12.480	< 2e-16	***
log(pop)	0.761351	0.438501	1.736	0.082518	.
urban	-0.031176	0.031058	-1.004	0.315467	
log(gdp)	3.518808	0.424240	8.294	< 2e-16	***
as.factor(v2x_regime)2	0.026887	2.146253	0.013	0.990005	
as.factor(v2x_regime)3	-3.526736	1.955278	-1.804	0.071278	.
post_comm	0.835314	1.231153	0.678	0.497467	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Correlation matrix not shown by default, as $p = 20 > 12$.

Use `print(x, correlation=TRUE)` or
`vcov(x)` if you need it

optimizer (bobyqa) convergence code: 1 (bobyqa -- maximum number of function evaluations exceeded)
unable to evaluate scaled gradient
Model failed to converge: degenerate Hessian with 1 negative eigenvalues

```
o3 <- glmer(vote ~ type2_mu + trust_social + sex + edu + age_g + year_f + happy + (1 | cty) +
  log(pop) + urban + log(gdp) + as.factor(v2x_regime) + post_comm,
  data = wk.df, family = binomial,
  control = glmerControl(optimizer = "bobyqa"),
  weights = weight)
```

```
summary(o3)
```

Generalized linear mixed model fit by maximum likelihood (Laplace
Approximation) [glmerMod]
Family: binomial (logit)
Formula: vote ~ type2_mu + trust_social + sex + edu + age_g + year_f +
happy + (1 | cty) + log(pop) + urban + log(gdp) + as.factor(v2x_regime) +
post_comm
Data: wk.df
Weights: weight
Control: glmerControl(optimizer = "bobyqa")

AIC	BIC	logLik	-2*log(L)	df.resid
-----	-----	--------	-----------	----------

```

26005.6  26180.5  -12981.8  25963.6  30476

Scaled residuals:
    Min       1Q   Median       3Q      Max
-9.9711  0.1611  0.3050  0.4908  4.8532

Random effects:
   Groups Name      Variance Std.Dev.
   cty     (Intercept) 2.434    1.56
Number of obs: 30497, groups: cty, 17

Fixed effects:
              Estimate Std. Error z value Pr(>|z|)
(Intercept)    -51.17906    5.94993  -8.602 < 2e-16 ***
type2_muRational    0.05263    0.04370   1.204 0.22844
type2_muHeterodox    0.05177    0.04277   1.210 0.22612
trust_social    0.17877    0.02132   8.386 < 2e-16 ***
sexM    0.02176    0.03186   0.683 0.49453
edu    0.26045    0.01307  19.931 < 2e-16 ***
age_g20-29    1.63833    0.10068  16.272 < 2e-16 ***
age_g30-39    2.03596    0.10098  20.163 < 2e-16 ***
age_g40-49    2.47628    0.10208  24.258 < 2e-16 ***
age_g50-59    2.70383    0.10312  26.220 < 2e-16 ***
age_g60-69    3.15165    0.10733  29.364 < 2e-16 ***
age_g70 post    3.32608    0.11072  30.041 < 2e-16 ***
year_f2018    -0.46139    0.04616  -9.995 < 2e-16 ***
happy    0.25189    0.02525   9.976 < 2e-16 ***
log(pop)    0.66988    0.36100   1.856 0.06351 .
urban    -0.02958    0.03057  -0.968 0.33320
log(gdp)    4.11740    0.43953   9.368 < 2e-16 ***
as.factor(v2x_regime)2  -2.04538    2.00329  -1.021 0.30725
as.factor(v2x_regime)3  -4.71854    1.76064  -2.680 0.00736 **
post_comm    1.24994    1.12056   1.115 0.26465
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

```

Correlation matrix not shown by default, as $p = 20 > 12$.

Use `print(x, correlation=TRUE)` or
`vcov(x)` if you need it

optimizer (bobyqa) convergence code: 1 (bobyqa -- maximum number of function evaluations exceeded)
Model failed to converge with $\max|\text{grad}| = 0.0263154$ (tol = 0.002, component 1)
Model is nearly unidentifiable: large eigenvalue ratio
- Rescale variables?

Codes for Replicating Analysis in Figure 3

```

wk.df$type2mu <- wk.df$type2_mu
wk.df$ageg <- wk.df$age_g
wk.df$yearf <- wk.df$year_f

```

```

wk.df$cty <- as.factor(wk.df$cty)

# political trust #-----#
trustdf <- na.omit(wk.df[, c("vote", "type2mu", "trust_mu5", "sex", "edu", "ageg", "happy", "cty", "yearf")])
trustdf$yearf <- droplevels(trustdf$yearf)
trustdf$cty <- droplevels(trustdf$cty)

expdata_m1 <- neImpute(vote ~ type2mu + trust_mu5 + sex + edu + ageg + happy + cty + yearf,
                      data = trustdf, family = binomial)

mf_m1 <- neModel(vote ~ type2mu0 + type2mu1 + sex + edu + ageg + happy + cty + yearf,
                expData = expdata_m1, family = binomial)
car::Anova(mf_m1, type = "II")

# anti social #-----#
scdf <- na.omit(wk.df[, c("vote", "type2mu", "sc1", "sex", "edu", "ageg", "happy", "cty", "yearf")])
scdf$yearf <- droplevels(scdf$yearf)
scdf$cty <- droplevels(scdf$cty)

expdata_m2 <- neImpute(vote ~ type2mu + sc1 + sex + edu + ageg + happy + cty + yearf,
                      data = scdf, family = binomial)

mf_m2 <- neModel(vote ~ type2mu0 + type2mu1 + sex + edu + ageg + happy + cty + yearf,
                expData = expdata_m2, family = binomial)
summary(mf_m2)
car::Anova(mf_m2, type = "II")

# generalised trust#-----#
ptrustdf <- na.omit(wk.df[, c("vote", "type2mu", "trust_social", "sex", "edu", "ageg", "happy", "cty", "yearf")])
ptrustdf$yearf <- droplevels(ptrustdf$yearf)
ptrustdf$cty <- droplevels(ptrustdf$cty)

expdata_m3 <- neImpute(vote ~ type2mu + trust_social + sex + edu + ageg + happy + cty + yearf,
                      data = ptrustdf, family = binomial, )

mf_m3 <- neModel(vote ~ type2mu0 + type2mu1 + sex + edu + ageg + happy + cty + yearf,
                expData = expdata_m3, family = binomial)
summary(mf_m3)
car::Anova(mf_m3, type = "II")

head(expdata_m1)

```

	id	type2mu0	type2mu1	vote	trust_mu5	sex	edu	ageg	happy	cty
1	1939	Rational	Rational	0.3439197	0.52	F	2	20	pre	4 Austria
2	1939	Heterodox	Rational	0.3330738	0.52	F	2	20	pre	4 Austria
3	1939	Religious	Rational	0.3141175	0.52	F	2	20	pre	4 Austria
4	1941	Rational	Rational	0.8796071	0.60	F	2	40-49		4 Austria
5	1941	Heterodox	Rational	0.8743823	0.60	F	2	40-49		4 Austria
6	1941	Religious	Rational	0.8645552	0.60	F	2	40-49		4 Austria
	yearf									
1	2008									
2	2008									

```

3 2008
4 2008
5 2008
6 2008

```

```
summary(mf_m1)
```

```

Natural effect model
with standard errors based on the non-parametric bootstrap
---

```

```

Exposure: type2mu
Mediator(s): trust_mu5
---

```

```
Parameter estimates:
```

	Estimate	Std. Error	z value	Pr(> z)	
(Intercept)	0.157251	0.131796	1.193	0.23282	
type2mu0Rational	0.134352	0.043542	3.086	0.00203	**
type2mu0Heterodox	0.086164	0.040491	2.128	0.03334	*
type2mu1Rational	-0.085924	0.007637	-11.252	< 2e-16	***
type2mu1Heterodox	-0.065510	0.006096	-10.746	< 2e-16	***
sexM	0.041175	0.029686	1.387	0.16544	
edu	0.266180	0.012295	21.650	< 2e-16	***
ageg20 pre	-1.615967	0.107446	-15.040	< 2e-16	***
ageg30-39	0.457535	0.043332	10.559	< 2e-16	***
ageg40-49	0.879678	0.046127	19.071	< 2e-16	***
ageg50-59	1.157964	0.050081	23.122	< 2e-16	***
ageg60-69	1.522808	0.053857	28.275	< 2e-16	***
ageg70 post	1.654318	0.061292	26.991	< 2e-16	***
happy	0.268536	0.023484	11.435	< 2e-16	***
ctyCzechia	-1.031607	0.084515	-12.206	< 2e-16	***
ctyDenmark	0.339639	0.119624	2.839	0.00452	**
ctyFinland	-0.163356	0.120538	-1.355	0.17534	
ctyFrance	0.397507	0.099705	3.987	6.70e-05	***
ctyGeorgia	-0.811646	0.106257	-7.638	2.20e-14	***
ctyGermany	-0.283135	0.087363	-3.241	0.00119	**
ctyIreland	-0.858664	0.092513	-9.282	< 2e-16	***
ctyLatvia	-1.160954	0.113275	-10.249	< 2e-16	***
ctyLithuania	-1.078421	0.111123	-9.705	< 2e-16	***
ctyNetherlands	0.343032	0.113102	3.033	0.00242	**
ctyNew Zealand	0.480124	0.112534	4.266	1.99e-05	***
ctyNorway	-0.029317	0.131766	-0.222	0.82393	
ctyRussian Federation	-1.303949	0.088244	-14.777	< 2e-16	***
ctySlovakia	-1.005783	0.085502	-11.763	< 2e-16	***
ctySlovenia	-0.151198	0.107328	-1.409	0.15891	
ctySweden	0.913006	0.149604	6.103	1.04e-09	***
ctySwitzerland	-1.453444	0.085951	-16.910	< 2e-16	***
ctyTurkey	1.102180	0.117632	9.370	< 2e-16	***
yearf2008	-0.694001	0.073629	-9.426	< 2e-16	***
yearf2018	-0.872221	0.079984	-10.905	< 2e-16	***

```

---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

```

```
head(expdata_m2)
```

```

      id  type2mu0 type2mu1      vote sc1 sex edu   age happy   cty yearf
1 1939 Rational Rational 0.3635570   5  F  2 20 pre    4 Austria 2008
2 1939 Heterodox Rational 0.3595305   5  F  2 20 pre    4 Austria 2008
3 1939 Religious Rational 0.3610661   5  F  2 20 pre    4 Austria 2008
4 1941 Rational Rational 0.8792085   3  F  2 40-49    4 Austria 2008
5 1941 Heterodox Rational 0.8773437   3  F  2 40-49    4 Austria 2008
6 1941 Religious Rational 0.8780589   3  F  2 40-49    4 Austria 2008

```

```
summary(mf_m2)
```

Natural effect model
with standard errors based on the non-parametric bootstrap

Exposure: type2mu

Mediator(s): sc1

Parameter estimates:

	Estimate	Std. Error	z value	Pr(> z)	
(Intercept)	-0.541534	0.123156	-4.397	1.10e-05	***
type2mu0Rational	0.010772	0.044473	0.242	0.808613	
type2mu0Heterodox	-0.006657	0.043166	-0.154	0.877438	
type2mu1Rational	0.057519	0.012784	4.499	6.82e-06	***
type2mu1Heterodox	0.035961	0.008082	4.449	8.61e-06	***
sexM	0.030235	0.031997	0.945	0.344697	
edu	0.249128	0.013145	18.952	< 2e-16	***
ageg20 pre	-1.571023	0.117295	-13.394	< 2e-16	***
ageg30-39	0.444476	0.047144	9.428	< 2e-16	***
ageg40-49	0.830288	0.047771	17.380	< 2e-16	***
ageg50-59	1.119434	0.050737	22.064	< 2e-16	***
ageg60-69	1.512499	0.058094	26.035	< 2e-16	***
ageg70 post	1.651141	0.061783	26.725	< 2e-16	***
happy	0.299151	0.024943	11.993	< 2e-16	***
ctyCzechia	-1.039676	0.086340	-12.042	< 2e-16	***
ctyDenmark	0.292544	0.110922	2.637	0.008355	**
ctyFinland	-0.110708	0.127912	-0.865	0.386765	
ctyFrance	0.381527	0.105061	3.631	0.000282	***
ctyGeorgia	-0.801220	0.110042	-7.281	3.31e-13	***
ctyGermany	-0.009520	0.094698	-0.101	0.919923	
ctyIreland	-0.910877	0.095425	-9.546	< 2e-16	***
ctyLatvia	-1.138517	0.112947	-10.080	< 2e-16	***
ctyLithuania	-1.055389	0.109872	-9.606	< 2e-16	***
ctyNetherlands	0.296579	0.113245	2.619	0.008821	**
ctyNew Zealand	0.482967	0.110956	4.353	1.34e-05	***
ctyNorway	-0.043230	0.136515	-0.317	0.751495	
ctyRussian Federation	-1.290572	0.090276	-14.296	< 2e-16	***
ctySlovakia	-1.041109	0.086156	-12.084	< 2e-16	***
ctySlovenia	-0.686839	0.111003	-6.188	6.11e-10	***
ctySweden	0.947927	0.154967	6.117	9.54e-10	***
ctySwitzerland	-1.434925	0.086642	-16.561	< 2e-16	***
ctyTurkey	1.118470	0.124036	9.017	< 2e-16	***


```

yearf2018          -0.201162    0.042673   -4.714 2.43e-06 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

```

```
head(expdata_m3)
```

```

      id  type2mu0 type2mu1      vote trust_social sex edu   age happy   cty
1 1939 Rational Rational 0.3819362         2  F   2 20 pre    4 Austria
2 1939 Heterodox Rational 0.3788058         2  F   2 20 pre    4 Austria
3 1939 Religious Rational 0.3712770         2  F   2 20 pre    4 Austria
4 1941 Rational Rational 0.9050316         4  F   2 40-49    4 Austria
5 1941 Heterodox Rational 0.9038839         4  F   2 40-49    4 Austria
6 1941 Religious Rational 0.9010568         4  F   2 40-49    4 Austria
yearf
1 2008
2 2008
3 2008
4 2008
5 2008
6 2008

```

```
summary(mf_m3)
```

```

Natural effect model
with standard errors based on the non-parametric bootstrap
---
Exposure: type2mu
Mediator(s): trust_social
---
Parameter estimates:

      Estimate Std. Error z value Pr(>|z|)
(Intercept)    -0.540399   0.125161  -4.318 1.58e-05 ***
type2mu0Rational    0.045287   0.043414   1.043 0.296876
type2mu0Heterodox    0.032039   0.042698   0.750 0.453035
type2mu1Rational    0.003753   0.002348   1.599 0.109864
type2mu1Heterodox    0.002059   0.002302   0.894 0.371119
sexM                0.040695   0.031719   1.283 0.199496
edu                 0.261074   0.013225  19.741 < 2e-16 ***
ageg20 pre         -1.538373   0.112024 -13.733 < 2e-16 ***
ageg30-39           0.428361   0.049060   8.731 < 2e-16 ***
ageg40-49           0.843052   0.049460  17.045 < 2e-16 ***
ageg50-59           1.107038   0.050368  21.979 < 2e-16 ***
ageg60-69           1.505211   0.058778  25.608 < 2e-16 ***
ageg70 post         1.640948   0.062888  26.093 < 2e-16 ***
happy               0.287677   0.025599  11.238 < 2e-16 ***
ctyCzechia          -1.016294   0.085736 -11.854 < 2e-16 ***
ctyDenmark           0.300959   0.115108   2.615 0.008934 **
ctyFinland          -0.112176   0.126626  -0.886 0.375681
ctyFrance            0.403097   0.104465   3.859 0.000114 ***
ctyGermany          -0.082984   0.094416  -0.879 0.379444
ctyIreland          -0.900335   0.093860  -9.592 < 2e-16 ***
ctyLatvia           -1.168649   0.112184 -10.417 < 2e-16 ***

```

ctyLithuania	-1.031703	0.113623	-9.080	< 2e-16	***
ctyNetherlands	0.333191	0.107579	3.097	0.001954	**
ctyNew Zealand	0.480847	0.114129	4.213	2.52e-05	***
ctyNorway	-0.038477	0.134053	-0.287	0.774091	
ctyRussian Federation	-1.297659	0.089687	-14.469	< 2e-16	***
ctySlovakia	-1.025085	0.089225	-11.489	< 2e-16	***
ctySlovenia	-0.692472	0.110575	-6.262	3.79e-10	***
ctySwitzerland	-1.437630	0.085580	-16.799	< 2e-16	***
ctyTurkey	1.142362	0.128287	8.905	< 2e-16	***
yearf2018	-0.229491	0.041829	-5.486	4.10e-08	***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1