Supplementary Information for "Experimental effects of climate messages vary geographically"

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1 Supplementary Tables

Table 1: Summary statistics of respondents' demographic characteristics. The control and treatment groups do not significantly differ on any of these demographic characteristics.

Demographics	Control Prop.	Treatment Prop.	Difference (SE)	p-value
Male	0.454	0.460	0.006 (0.013)	0.659
Female	0.546	0.540	-0.006 (0.013)	0.659
Less than high school diploma	0.050	0.050	0.000 (0.006)	0.998
High school graduate, GED, or alternative	0.322	0.328	0.005 (0.012)	0.641
Some college or associates degree	0.325	0.322	-0.003 (0.012)	0.794
Bachelors degree or higher	0.302	0.300	-0.002 (0.012)	0.833
Age 18-24	0.139	0.137	-0.002 (0.009)	0.802
Age 25-34	0.222	0.226	0.004 (0.011)	0.735
Age 35-44	0.164	0.156	-0.008 (0.009)	0.374
Age 45-64	0.337	0.345	0.008 (0.012)	0.518
Age 65 or older	0.138	0.137	-0.001 (0.009)	0.917
Black, Non-Hispanic	0.081	0.089	0.008 (0.007)	0.276
White, Non-Hispanic	0.734	0.724	-0.011 (0.011)	0.346
Hispanic	0.117	0.121	0.004 (0.008)	0.637
Other, Non-Hispanic	0.068	0.067	-0.001 (0.006)	0.883
Party ID: Democrat	0.316	0.343	0.027 (0.012)	0.024
Party ID: Independent	0.265	0.251	-0.014 (0.011)	0.208
Party ID: No party / not interested in politics	0.155	0.140	-0.016 (0.009)	0.083
Party ID: Other	0.031	0.026	-0.005 (0.004)	0.198
Party ID: Republican	0.233	0.241	0.008 (0.011)	0.455

$N = 6301$

Table 2: Results from an ordinary least squares (OLS) regression that predicts treatment assignment using respondents' demographic covariates. Demographic characteristics do not individually or jointly predict treatment assignment.

	Estimate	Std. Error	t value	p-value
Female	-0.006	0.013	-0.419	0.675
High school graduate, GED, or alternative	-0.0001	0.030	-0.003	0.998
Some college or associates degree	-0.010	0.031	-0.319	0.750
Bachelors degree or higher	-0.013	0.031	-0.411	0.681
Age 25-34	0.009	0.022	0.424	0.671
Age 35-44	-0.009	0.024	-0.372	0.710
Age 45-64	0.007	0.021	0.339	0.735
Age 65 or older	-0.0001	0.025	-0.002	0.998
White, Non-Hispanic	-0.017	0.024	-0.733	0.463
Hispanic	-0.006	0.029	-0.211	0.833
Other, Non-Hispanic	-0.011	0.033	-0.340	0.734
Party ID: Independent	-0.032	0.017	-1.872	0.061
Party ID: No party / not interested in politics	-0.047	0.021	-2.308	0.021
Party ID: Other	-0.067	0.039	-1.702	0.089
Party ID: Republican	-0.009	0.018	-0.512	0.608
(Intercept)	0.540	0.040	13.620	< 0.001

$N = 6301$
F-statistic: 0.7921 on 15 and 6285 DF, p-value: 0.6879.

Table 3: Comparing state-level MRP estimates with disaggregated estimates. For each state, the disaggregated estimates use survey responses from only that state; the weighted disaggregated estimates use inverse probability weights that were generated by the researchers.

State	MRP Est.	Disaggregated Est. (Unweighted)	Disaggregated Est. (Weighted)	N Respondents
CA	12.20	12.26	12.40	675
FL	15.90	15.89	15.70	505
TX	16.06	16.11	14.73	439
NY	15.90	17.07	16.21	406
PA	16.70	16.19	15.54	253
OH	17.32	18.28	13.31	252
IL	15.69	14.88	16.12	241
MI	15.89	14.62	18.18	222
GA	16.02	14.95	13.02	188
VA	13.94	11.67	11.26	174
NC	17.37	22.26	22.17	171
NJ	14.26	11.98	11.07	167
IN	17.85	15.63	14.12	161
MA	16.04	16.08	15.08	145
AZ	15.45	16.29	15.96	133
WI	17.03	16.74	16.45	130
TN	17.71	21.71	20.71	126
WA	14.74	12.17	9.25	121
MD	16.49	21.70	20.55	113
MO	17.06	16.75	21.63	112
OR	16.79	18.43	20.10	104
CO	15.73	16.08	15.98	95
MN	18.88	21.98	21.49	94
CT	16.02	20.02	19.19	91
KY	16.29	7.10	7.41	89
SC	17.12	17.36	16.51	88
AL	18.70	21.20	22.43	83
LA	16.63	11.94	13.71	73
NV	15.29	17.39	14.03	62
OK	19.39	24.72	18.28	59
KS	18.95	25.87	26.14	58
AR	18.53	20.90	22.40	52
UT	18.36	14.23	13.71	52
IA	18.78	15.38	12.60	48
WV	24.14	40.46	42.52	48
MS	16.96	8.37	9.76	42
NE	20.29	30.88	32.70	35
ID	16.83	13.21	11.06	29
NM	15.51	9.33	7.87	29
NH	17.26	20.58	19.48	27
HI	13.21	18.46	16.45	26
ME	17.11	17.88	19.08	20
RI	15.81	17.93	18.78	19
VT	16.41	21.06	22.02	16
MT	20.34	23.00	20.37	15
DC	12.40	-0.58	-2.09	14
AK	18.10	18.62	19.89	13
WY	22.69	16.57	17.86	11
ND	22.34	22.00	25.74	10
SD	18.72	1.30	-1.72	9
DE	15.62	26.33	31.79	6

2 Supplementary Figures

Figure 1: Distribution of pre-treatment and post-treatment beliefs in the scientific consensus by experimental group. The orange dotted lines represent the mean outcome for the control group and the blue dotted lines represent the mean outcome for the treatment group.

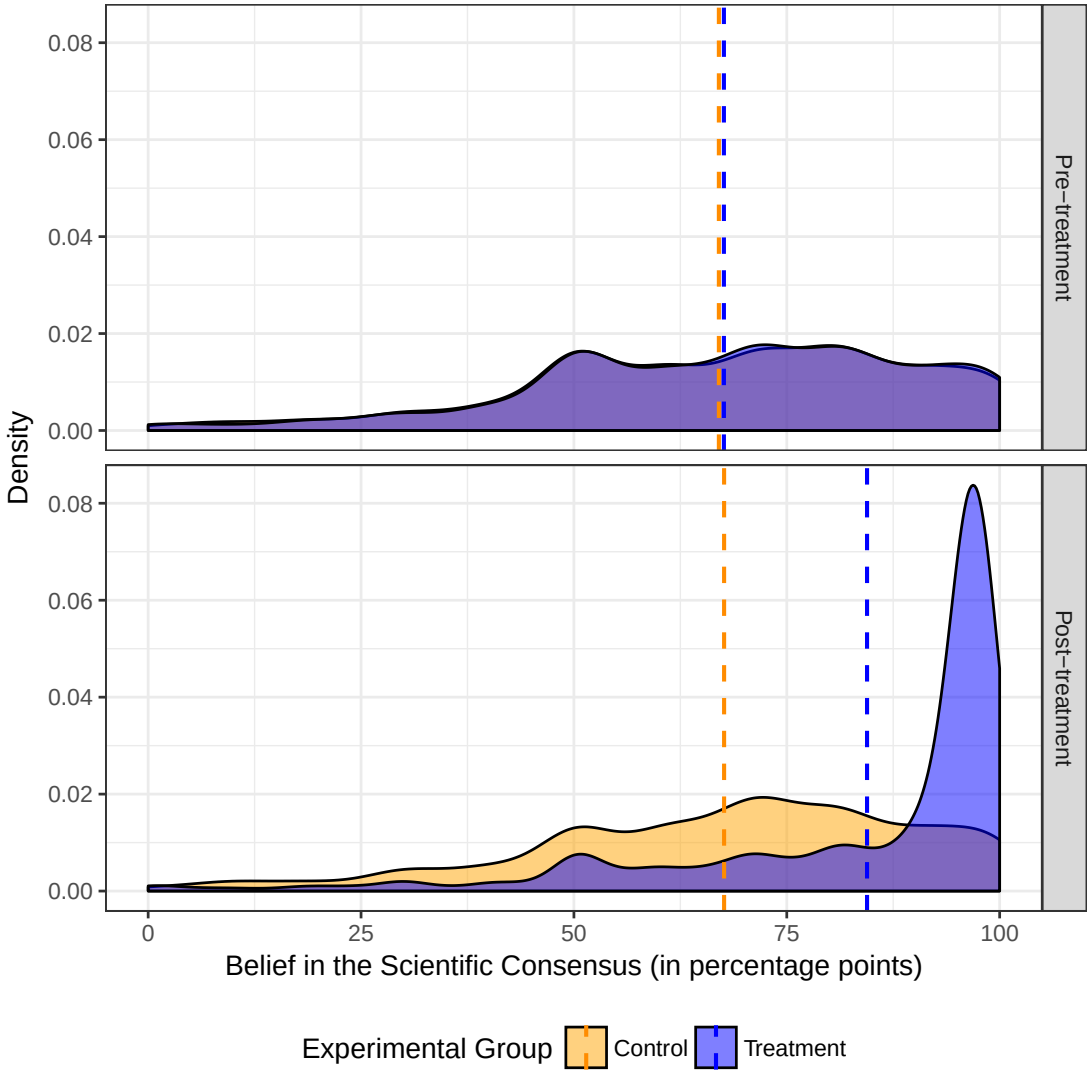


Figure 2: State-level MRP estimates of the post-treatment belief in the scientific consensus by experimental group. The top figure shows the state-level distribution of beliefs for the treatment group; the bottom figure shows the state-level distribution of beliefs for the control group.

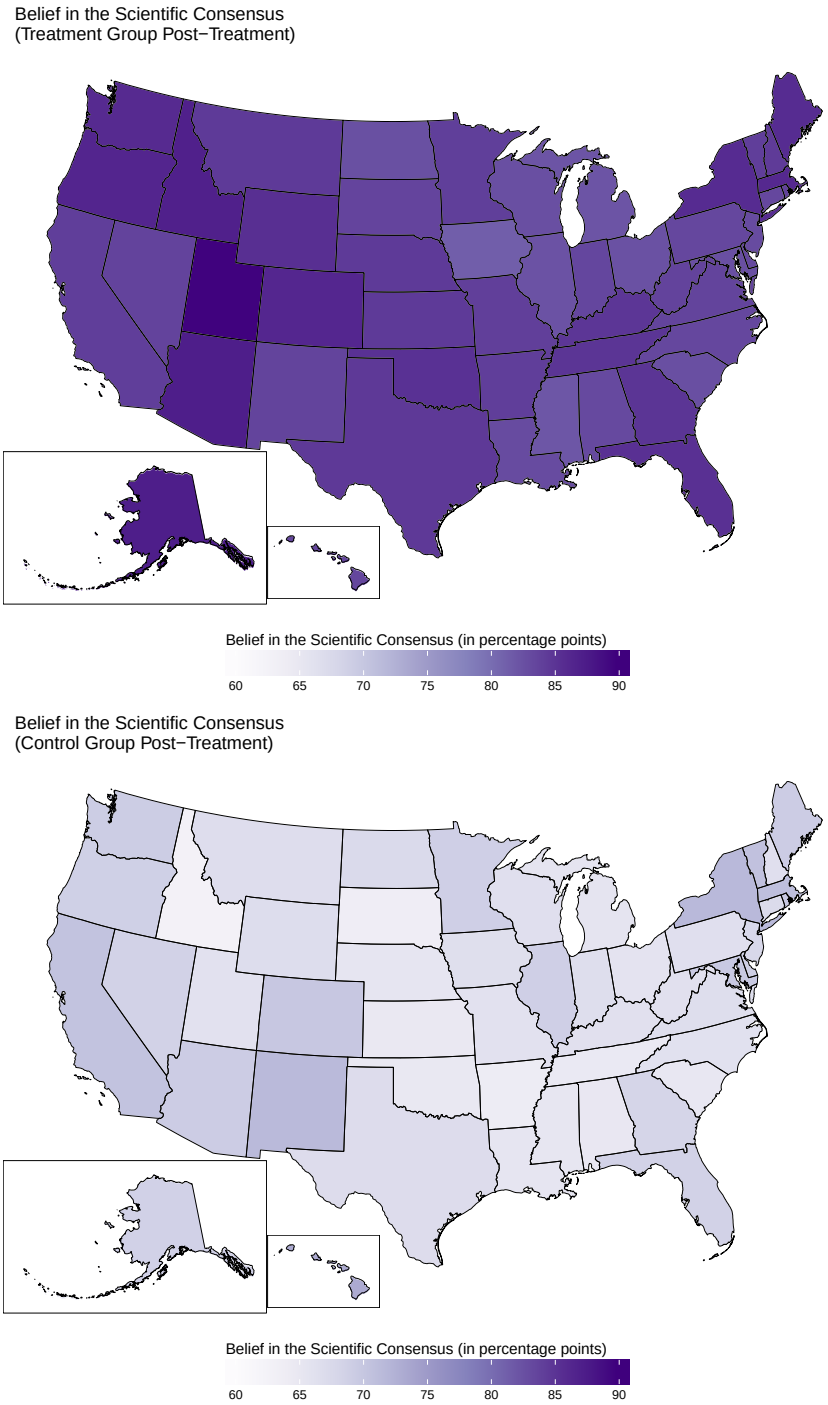
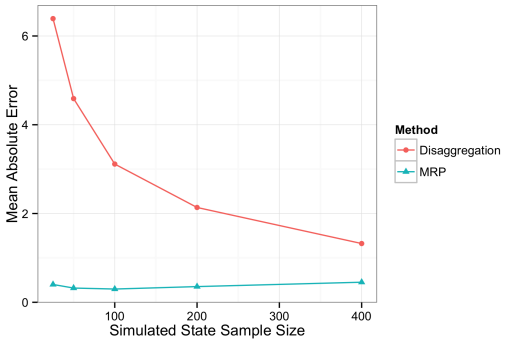
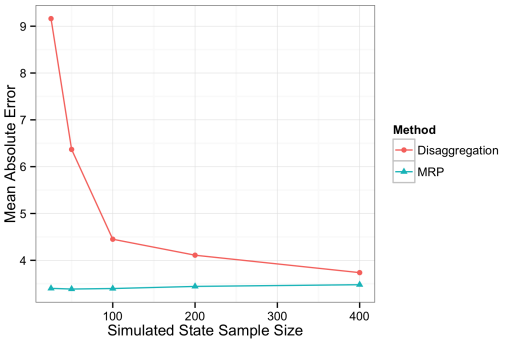


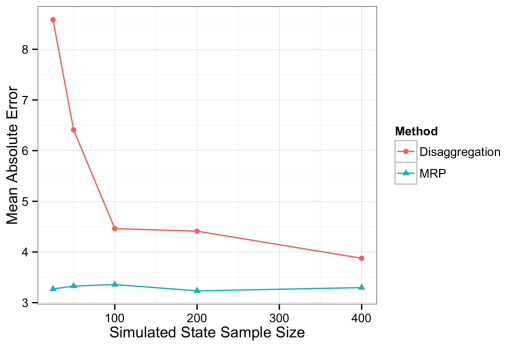
Figure 3: Comparing MRP-estimated state-level results with estimates derived from disaggregation, using a validation technique developed by Pacheco 2011[1]. Subsamples of varying sizes were randomly selected from states with large sample sizes and used to simulate the samples of less populous states. Mean absolute error increases substantially using disaggregation with smaller simulated sample sizes. By contrast, error in the MRP estimates is relatively stable and lower than disaggregation across all simulated sample sizes.



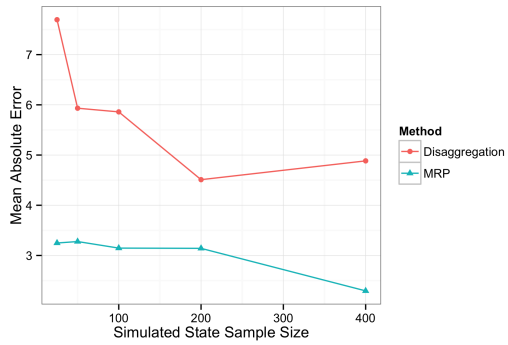
(a) California



(b) Florida



(c) Texas



(d) New York

Figure 4: Random effects estimates for the state variables from the multilevel models used to generate the study's state-level MRP estimates. The dots represent the point estimates and the error bars represent 95 percent confidence intervals.

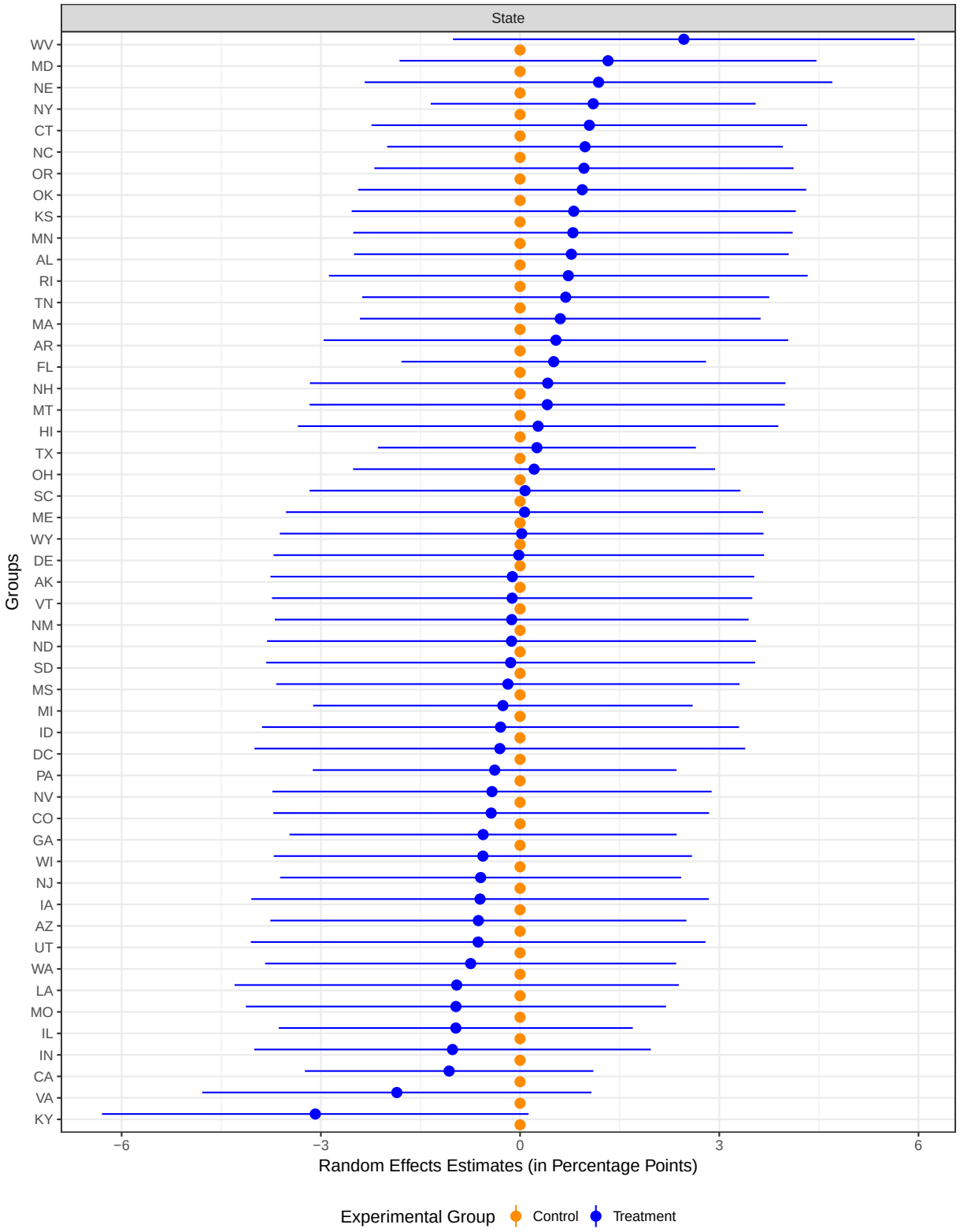


Figure 5: Random effects estimates for the gender/race/education variables from the multilevel models used to generate the study's state-level MRP estimates. The dots represent the point estimates and the error bars represent 95 percent confidence intervals.

Figure 6: Random effects estimates for the demographic groups and region variables from the multilevel models used to generate the study's state-level MRP estimates. The dots represent the point estimates and the error bars represent 95 percent confidence intervals.

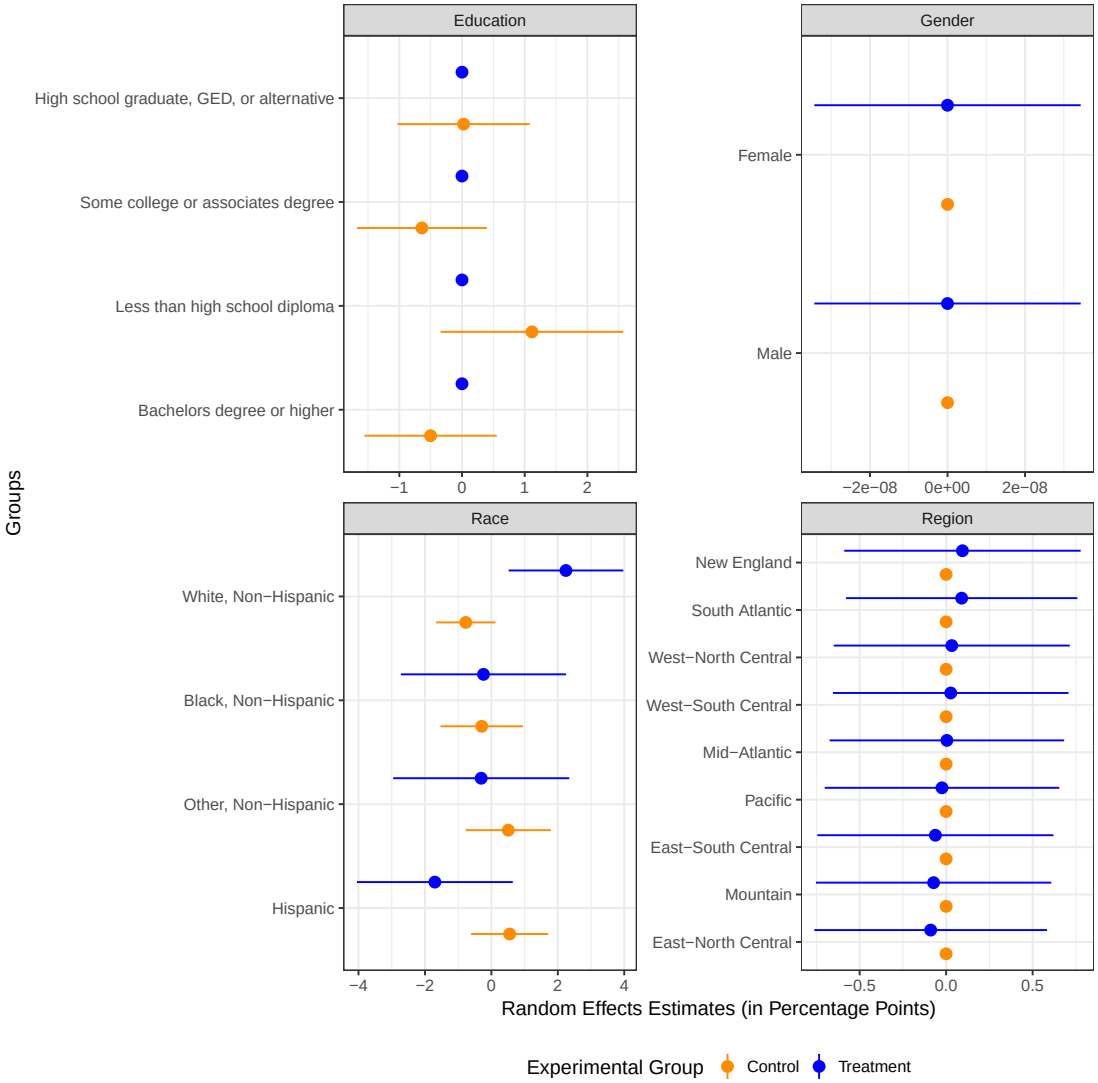
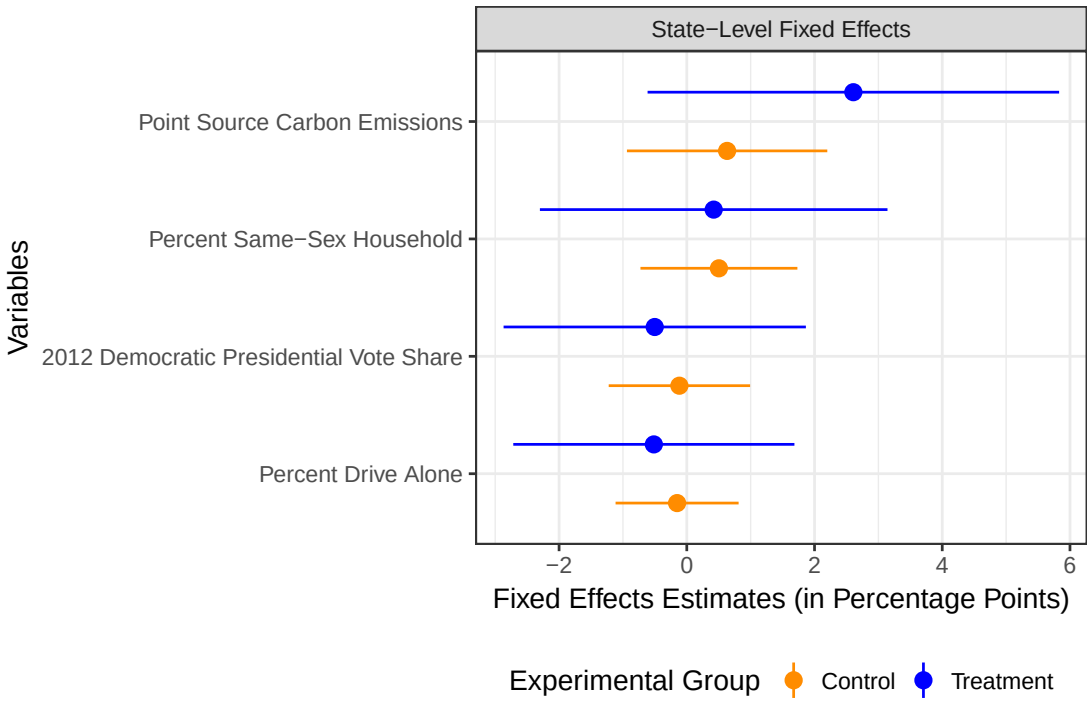


Figure 7: Fixed effects estimates from the multilevel models used to generate the study's state-level MRP estimates. The dots represent the point estimates and the error bars represent 95 percent confidence intervals.



3 Supplementary References

1. Pacheco, J. Using national surveys to measure dynamic US state public opinion: A guideline for scholars and an application. *State Politics & Policy Quarterly,* 1532440011419287 (2011).