

(On-line) Appendix A

In this appendix, we perform sensitivity analysis of the estimates shown in Figure 2, following the notation of VanderWeele (2011). Figure A1 provides sensitivity analysis for the turnout estimates. The black estimates in Figure A1 duplicate the turnout differences shown in Figure 2—they represent causal effects *if we assume that the matching has produced unbiased estimates*. Put differently, these estimates assume that 1) no pre-treatment differences associated with turnout remain between parents and non-parents and 2) the matching has not conditioned on any post-treatment covariates. The grey estimates explore how our results change if we adjust for varying degrees of violations of these assumptions. We assume that some unobserved binary covariate u remains unevenly distributed between matched parents and non-parents. Specifically, in Figure A1 we assume that $u = 1$ is 40 percentage points more common among parents than among non-parents (e.g., $u = 1$ for 70 percent of parents, but only 30 percent of non-parents). See Figure A2 for analysis using alternative distributions of u .

Further, we assume that this covariate has a causal effect γ on individuals' propensity to turn out, expressed as the difference in mean turnout when $u = 1$ relative to when $u = 0$. When $\gamma < 0$, we are assuming that $u = 1$ decreases turnout relative to $u = 0$, and thus we have overestimated parenthood's demobilizing effect. This problem may occur if pre-treatment differences remain between parents and non-parents. When $\gamma > 0$, we are assuming that u increases turnout, which can compensate for the possibility that the matching procedure conditioned on post-treatment covariates.

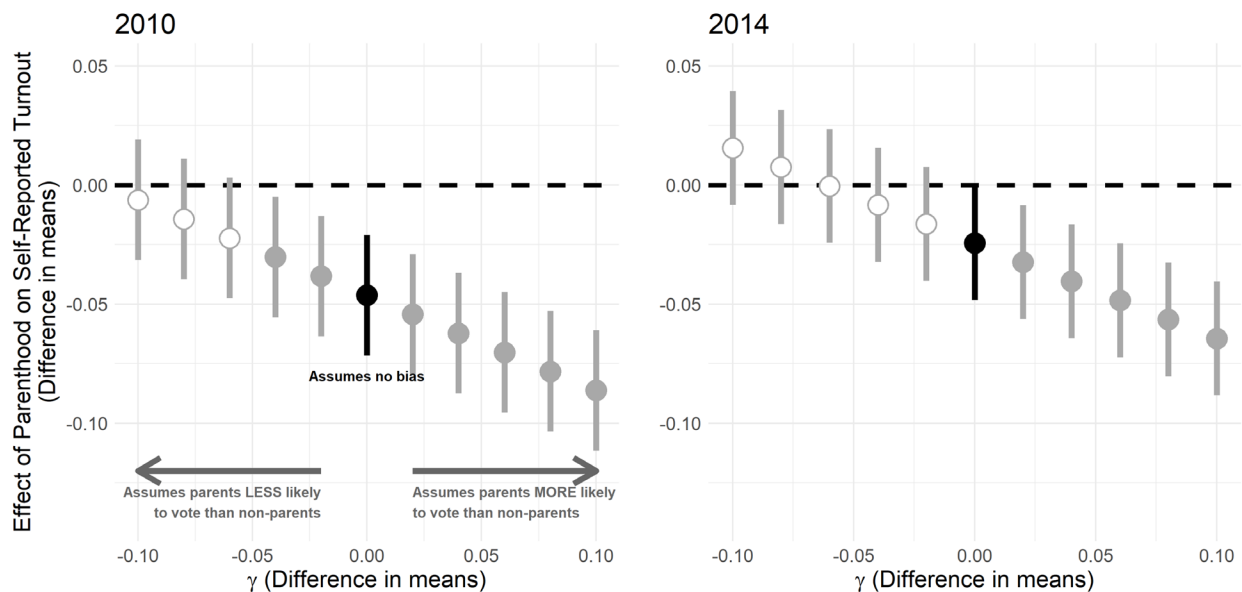


Figure A1. Evaluating the sensitivity of the estimated effects of parenthood on turnout. *The black dots represent the difference between the turnout levels of parents and non-parents in the weighted, matched samples. The lines represent 95% confidence intervals. The grey estimates represent adjusted differences under varying assumptions about the bias remaining after matching. Values of γ less than zero assume that matched parents remain less likely to vote than matched non-parents for reasons other than parenthood. Values of γ greater than zero assume that matched parents are more likely to vote than matched non-parents for reasons other than parenthood. Source: 2010 and 2014 CPS Voting and Registration Supplements.*

The effect of the unobserved covariate on turnout, γ , is displayed along the x axis in Figure A1. To explain away the effect of parenthood entirely in 2010, the figure suggests that the unobserved covariate would need to produce an effect of about -0.1 and thus reduce the probability of parents' turning out by ten percentage points relative to matched non-parents. In 2014, the apparent effect of parenthood disappears when the unobserved covariate produces a weaker, negative effect on turnout—six percentage points would explain away the effect in full. In contrast, if the unobserved covariate increases turnout, the estimated demobilizing effect of parenthood increases with γ . Therefore, the evidence supports a modest demobilizing effect of parenthood—as long as the matching removed a large portion of the pre-treatment differences between parents and non-parents that also influence turnout. See Figure A3 for analogous results for the non-voting forms of participation.

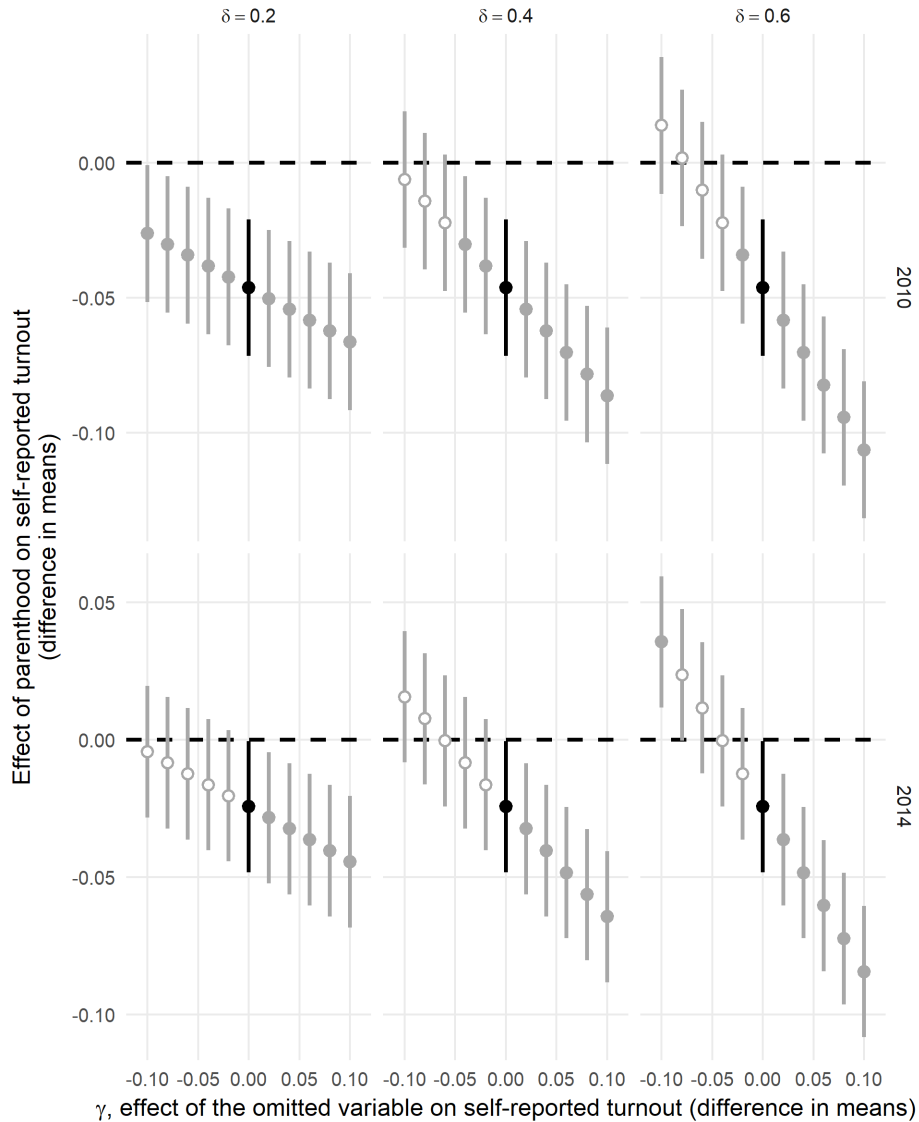


Figure A2. Sensitivity analysis for the turnout estimates. *The black estimates represent the difference in mean turnout in the weighted, matched samples, with 95% confidence intervals. These estimates were first reported in Figure 2. The grey estimates represent adjusted differences under plausible assumptions about the bias remaining after matching. Results are presented for three values of δ , which represents the difference between parents and non-parents in the prevalence of an unmeasured trait. When $\delta = 0.2$, we assume only a small unmeasured difference exists between parents and nonparents, e.g., 60% of parents hold the omitted trait, compared to 40% of*

non-parents. When $\delta = 0.6$, we assume a large difference exists, e.g., 80% of parents, compared to 20% of non-parents. Since all the δ values are positive, positive values of γ assume that matched parents are more likely to turn out than matched non-parents for reasons other than parenthood. Negative values of γ assume that matched parents remain less likely to turn out than matched non-parents for reasons other than parenthood, which would occur if matching failed to remove all pre-treatment covariates that discourage participation among parents. Source: 2010 and 2014 CPS Voting and Registration Supplements

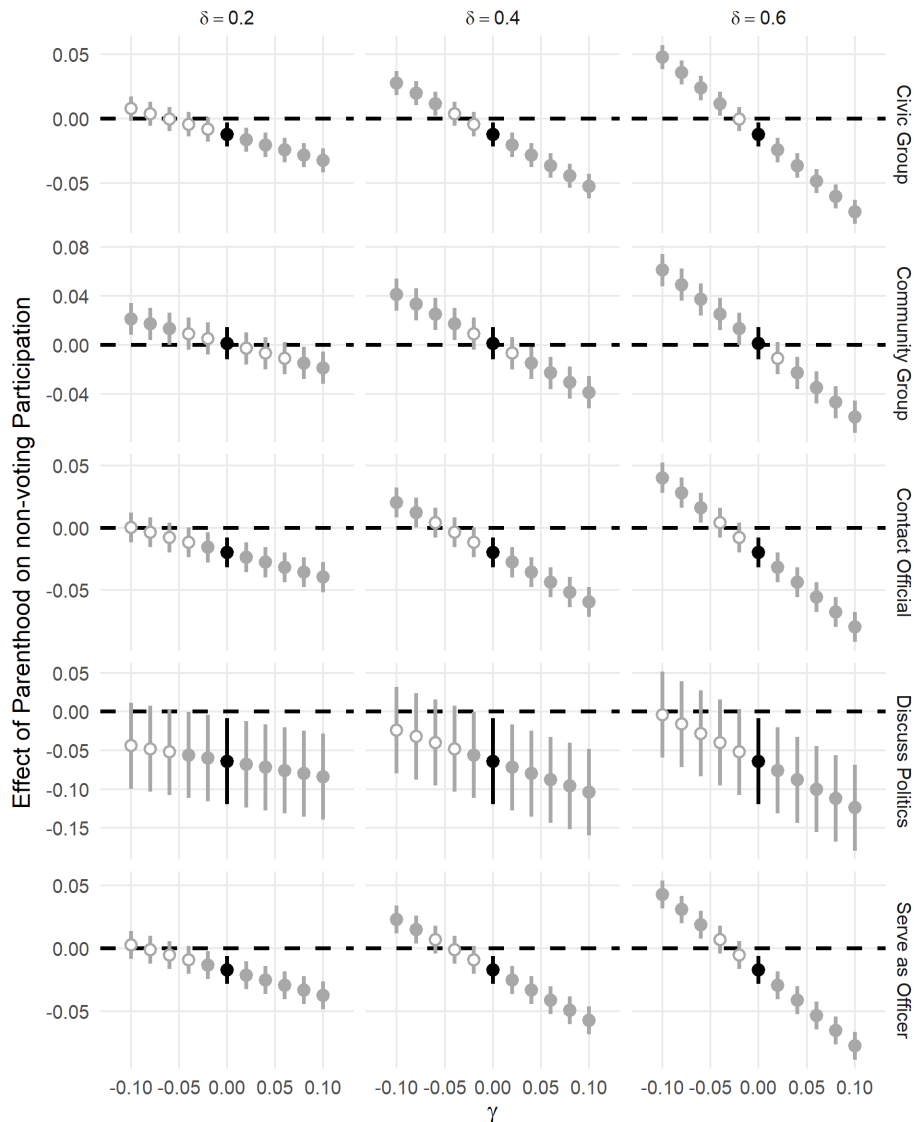


Figure A3. Sensitivity analysis for the nonvoting participation estimates. The black estimates represent the difference in mean participation in the weighted, matched samples, with 95% confidence intervals. These estimates were first reported in Figure 2. The grey estimates represent corrected differences under plausible assumptions about the bias remaining after matching. Results are presented for three values of δ , which represents the difference between parents and non-parents in the prevalence of an unmeasured trait. When $\delta = 0.2$, we assume only a small unmeasured difference exists between parents and nonparents, e.g., 60% of parents hold the omitted trait, compared to 40% of non-parents. When $\delta = 0.6$, we assume a large difference exists, e.g., 80% of parents, compared to 20% of non-parents. The x-axis reflects γ , the effect of the unobserved trait on participation, expressed as a beta coefficient. Values of γ greater than zero assume that the omitted variable increases participation while negative values assume it decreases participation. Since all the δ values are positive, positive values of γ assume that

matched parents are more likely to participate than matched non-parents for reasons other than parenthood. Negative values of γ assume that matched parents remain less likely to participate than matched non-parents for reasons other than parenthood, which would occur if matching failed to remove all pre-treatment covariates that discourage participation among parents. Source: 2010 CPS Civic Engagement Supplement

(On-line) Appendix B

Appendix B presents the complete results from the conditional, fixed-effects logistic regressions summarized in Figure 3.

Table B1. Baseline models

| | Turnout | Attend Meeting | Display Sign | Work for Campaign | Donate Money |
|---|---------------|----------------|---------------|-------------------|---------------|
| Parent of young child (0 = No; 1 = Yes) | -0.22 (0.42) | 0.53 (0.45) | -0.10 (0.43) | -0.09 (0.69) | -0.19 (0.40) |
| 2014 elections (0 = 2010; 1 = 2014) | -1.39 (0.05)* | -0.76 (0.06)* | -0.65 (0.06)* | -0.77 (0.08)* | -0.33 (0.05)* |
| AIC | 2721.63 | 1549.92 | 1887.65 | 919.07 | 2022.89 |
| BIC | 2736.14 | 1562.00 | 1900.21 | 929.74 | 2036.16 |
| N | 16311 | 16311 | 16311 | 16311 | 16311 |

* p < 0.05. Results based on 20 imputations. Source: 2010-14 CCES Panel Study.

Table B2. Intermediate models

| | Turnout | Attend Meeting | Display Sign | Work for Campaign | Donate Money |
|--|---------------|----------------|---------------|-------------------|---------------|
| Parent of young child (0 = No; 1 = Yes) | -0.22 (0.42) | 0.51 (0.46) | -0.16 (0.44) | -0.23 (0.72) | -0.37 (0.41) |
| 2014 elections (0 = 2010; 1 = 2014) | -1.38 (0.05)* | -0.76 (0.06)* | -0.63 (0.06)* | -0.76 (0.08)* | -0.32 (0.05)* |
| College graduate (0 = No; 1 = Yes) | -0.41 (0.26) | 0.64 (0.28)* | 0.21 (0.28) | -0.16 (0.35) | -0.05 (0.26) |
| Contacted by political party (0 = No; 1 = Yes) | 0.21 (0.10)* | 0.39 (0.15)* | 0.55 (0.13)* | 0.86 (0.25)* | 0.43 (0.12)* |
| In second income quartile (0 = No; 1 = Yes) | -0.08 (0.14) | -0.10 (0.21) | 0.00 (0.18) | 0.13 (0.24) | 0.10 (0.17) |
| In third income quartile (0 = No; 1 = Yes) | -0.19 (0.17) | 0.04 (0.22) | 0.17 (0.21) | 0.14 (0.28) | 0.26 (0.20) |
| In fourth income quartile (0 = No; 1 = Yes) | -0.09 (0.21) | 0.20 (0.27) | 0.14 (0.26) | 0.06 (0.33) | 0.71 (0.25)* |
| AIC | 2722.63 | 1543.51 | 1875.87 | 914.73 | 2005.33 |
| BIC | 2773.42 | 1585.82 | 1919.82 | 952.05 | 2051.81 |
| N | 16311 | 16311 | 16311 | 16311 | 16311 |

* p < 0.05. Results based on 20 imputations. Source: 2010-14 CCES Panel Study.

Table B3. Full models

| | Turnout | Attend Meeting | Display Sign | Work for Campaign | Donate Money |
|--|---------------|----------------|---------------|-------------------|---------------|
| Parent of young child (0 = No; 1 = Yes) | -0.35 (0.43) | 0.44 (0.47) | -0.17 (0.45) | -0.27 (0.74) | -0.43 (0.41) |
| 2014 elections (0 = 2010; 1 = 2014) | -1.46 (0.05)* | -0.80 (0.07)* | -0.60 (0.06)* | -0.78 (0.09)* | -0.29 (0.06)* |
| College graduate (0 = No; 1 = Yes) | -0.50 (0.27) | 0.60 (0.29)* | 0.22 (0.29) | -0.16 (0.36) | -0.07 (0.27) |
| Contacted by political party (0 = No; 1 = Yes) | 0.21 (0.10)* | 0.37 (0.15)* | 0.56 (0.13)* | 0.80 (0.25)* | 0.43 (0.13)* |
| In second income quartile (0 = No; 1 = Yes) | -0.09 (0.14) | -0.13 (0.22) | -0.01 (0.18) | 0.14 (0.25) | 0.09 (0.17) |
| In third income quartile (0 = No; 1 = Yes) | -0.21 (0.18) | -0.01 (0.23) | 0.16 (0.22) | 0.18 (0.29) | 0.21 (0.20) |
| In fourth income quartile (0 = No; 1 = Yes) | -0.09 (0.21) | 0.14 (0.27) | 0.09 (0.26) | 0.13 (0.35) | 0.63 (0.26)* |
| Is married (0 = No; 1 = Yes) | -0.10 (0.19) | 0.05 (0.21) | 0.04 (0.22) | -0.20 (0.29) | 0.38 (0.22) |
| County (0 = Remained the same; 1 = Changed) | 0.73 (0.15)* | 0.35 (0.20) | -0.35 (0.21) | 0.12 (0.29) | -0.09 (0.18) |
| Owns home (0 = No; 1 = Yes) | 0.20 (0.17) | 0.33 (0.23) | 0.57 (0.22)* | 0.56 (0.30) | -0.21 (0.19) |
| Student (0 = No; 1 = Yes) | -0.30 (0.40) | -0.34 (0.43) | -0.31 (0.51) | -0.62 (0.63) | -0.15 (0.46) |
| Employed fulltime (0 = No; 1 = Yes) | 0.02 (0.13) | -0.07 (0.15) | -0.05 (0.15) | -0.33 (0.20) | 0.18 (0.15) |
| Church attendance frequency | -0.01 (0.05) | 0.06 (0.06) | -0.04 (0.06) | 0.14 (0.09) | -0.08 (0.06) |
| Political interest | 0.24 (0.10)* | 0.29 (0.19) | 0.30 (0.15) | 0.56 (0.28)* | 0.45 (0.14)* |
| AIC | 2705.83 | 1547.16 | 1874.16 | 913.87 | 2001.52 |
| BIC | 2807.39 | 1631.77 | 1962.05 | 988.52 | 2094.46 |
| N | 16311 | 16311 | 16311 | 16311 | 16311 |

* p < 0.05. Results based on 20 imputations. Source: 2010-14 CCES Panel Study.

(On-line) References from the Appendices

VanderWeele, Tyler J. 2011. "Sensitivity Analysis for Contagion Effects in Social Networks." *Sociological Methods & Research* 40: 240–55.