**APPENDIX**

 **Table A. Number of Hate Incidents: Different Rally Measures**

|  |  |  |
| --- | --- | --- |
|  | Month of & All Months After  | Month of & Month After |
|  | Coef. | S.E. | IRR |  | Coef. | S.E. | IRR |
| Trump Rally | 0.831\*\*\* | (0.171) | 2.297 |  | 0.776\*\*\* | (0.142) | 2.172\*\*\* |
| # Hate Groups | 0.019\*\*\* | (0.005) | 1.019 |  | 0.019\*\*\* | (0.005) | 1.019\*\*\* |
| % Urban | 0.065\*\*\* | (0.009) | 1.067 |  | 0.069\*\*\* | (0.009) | 1.072\*\*\* |
| Jewish Pop. | 0.000\*\*\* | (0.000) | 1.000 |  | 0.000\*\*\* | (0.000) | 1.000\*\*\* |
| Violent Crime | 0.009 | (0.005) | 1.009 |  | 0.009\*\*\* | (0.005) | 1.009  |
| Property Crime | -0.001 | (0.002) | 0.999 |  | -0.001 | (0.002) | 0.999 |
| % Rep 2012 | -0.037\*\*\* | (0.006) | 0.964 |  | -0.037\*\*\* | (0.006) | 0.964\*\*\* |
| College | 0.031\*\*\* | (0.008) | 1.031 |  | 0.034\*\*\* | (0.008) | 1.035\*\*\* |
| South | -0.917\*\* | (0.314) | 0.399 |  | -0.917\*\* | (0.320) | 0.400\*\*\* |
| Northeast | 0.509 | (0.298) | 1.664 |  | 0.544 | (0.295) | 1.722 |
| Midwest | -0.595\* | (0.269) | 0.551 |  | -0.534 | (0.278) | 0.586 |
| Jan | -1.002\*\*\* | (0.179) | 0.367 |  | -1.179\*\*\* | (0.170) | 0.308\*\*\* |
| Feb | -1.035\*\*\* | (0.158) | 0.355 |  | -1.206\*\*\* | (0.164) | 0.299\*\*\* |
| Mar | -0.443\*\* | (0.143) | 0.642 |  | -0.584\*\*\* | (0.444) | 0.558\*\*\* |
| Apr | -0.780\*\*\* | (0.163) | 0.459 |  | -0.906\*\*\* | ().163) | 0.404\*\*\* |
| May | -0.805\*\*\* | (0.161) | 0.447 |  | -0.912\*\*\* | (0.162) | 0.402\*\*\* |
| Jun | -0.768\*\*\* | (0.177) | 0.464 |  | -0.835\*\*\* | (0.179) | 0.434\*\*\* |
| Jul | -1.236\*\*\* | (0.195) | 0.290 |  | -1.282\*\*\* | (0.192) | 0.278\*\*\* |
| Aug | -0.996\*\*\* | (0.158) | 0.370 |  | -1.048\*\*\* | (0.157) | 0.350\*\*\* |
| Sep | -0.958\*\*\* | (0.159) | 0.384 |  | -0.975\*\*\* | (0.967) | 0.377\*\*\* |
| Oct | -0.675\*\*\* | (0.141) | 0.509 |  | -0.666\*\*\* | (0.147) | 0.514\*\*\* |
| Dec | -0.436\*\* | (0.162) | 0.646 |  | -0.366\* | (0.165) | 0.693\* |
| Constant | -4.664\*\*\* | (0.540) | 0.009 |  | -4.794\*\*\* | (0.552) | 0.008\*\*\* |
| ln(*α*) | 1.234\*\*\* | (0.180) | 1.234 |  | 1.291\*\*\* | (0.167) | 1.291\*\*\* |
| N Cases Wald *χ*2 | 37631982.1\*\*\* |  |  |  | 37631926.79\*\*\* |  |  |

Standard errors 1n parentheses. ∗ *p <* 0*.*05, ∗∗ *p <* 0*.*01, ∗∗∗ *p <* 0*.*001

**Table B: Predicted Trump Rallies (Logit)**

|  |  |  |
| --- | --- | --- |
|  | Coef. | S.E. |
| Hate Crimes | 0.077 | (0.077) |
| # Hate Groups | 0.005 | (0.004) |
| % Urban | 0.057\*\* | (0.007) |
| Jewish Pop. | -0.000\*\*\* | (0.000) |
| Violent Crime | 0.007 | (0.004) |
| Property Crime | -0.000 | (0.001) |
| % Rep 2012 | -0.018\*\*\* | (0.005) |
| College | 0.037\*\*\* | (0.007) |
| South | 0.276 | (0.253) |
| Northeast | 0.847\*\* | (0.316) |
| Midwest | 0.564\* | (0.258) |
| Jan | 1.855\*\*\* | (0.491) |
| Feb | 1.581\*\* | (0.501) |
| Mar | 1.615\*\* | (0.499) |
| Apr | 1.821\*\*\* | (0.491) |
| May | 0.987 | (0.534) |
| Jun | 0.616 | (0.563) |
| Jul | 0.364 | (0.592) |
| Aug | 1.267\* | (0.516) |
| Sep | 0.992 | (0.533) |
| Oct | -0.656\*\*\* | (0.497) |
| Constant | -8.496\*\*\* | (0.632) |
| N CasesWald *χ*2 | 37631982.1\*\*\* |  |

 Standard errors in parentheses. ∗ *p <* 0*.*05, ∗∗ *p <* 0*.*01, ∗∗∗ *p <* 0*.*001

**Table C. Number of Hate Incidents**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Model 1 |  |  | Model 2 |  |
| Coef. | S.E. | IRR | Coef. | S.E. | IRR |
| Trump Rally | 0.780\*\*\* | (0.209) | 2.181 | 0.180 | (0.136) | 1.200 |
| # Hate Groups | 0.002 | (0.005) | 1.002 | -0.005 | (0.004) | 0.955 |
| County Pop. | 0.000\*\*\* | (0.000) | 1.000 |   |  |  |
| Log County Pop. |   |  |  | 1.211\*\*\* | (0.069) | 3.355 |
| Jewish Pop. | 0.000\*\* | (0.000) | 1.000 | 0.000\*\* | (0.000) | 1.000 |
| Violent Crime | 0.015\*\*\* | (0.002) | 1.015 | 0.013\*\*\* | (0.002) | 1.013 |
| Property Crime | -0.001 | (0.001) | 0.999 | -0.002\* | (0.001) | 0.998 |
| % Rep 2012 | -0.033\*\*\* | (0.006) | 0.968 | -0.016\*\* | (0.006) | 0.984 |
| College | 0.056\*\*\* | (0.008) | 1.057 | 0.027\*\*\* | (0.008) | 1.028 |
| South | 0.072 | (0.232) | 1.075 | -0.054 | (0.201) | 0.948 |
| Northeast | 1.359\*\*\* | (0.236) | 3.982 | 0.840\*\*\* | (0.205) | 2.317 |
| Midwest | -0.001 | (0.290) | 0.999 | -0.204 | (0.243) | 0.816 |
| Jan | -1.006\*\*\* | (0.200) | 0.366 | -1.114\*\*\* | (0.177) | 0.328 |
| Feb | -1.058\*\*\* | (0.177) | 0.347 | -1.177\*\*\* | (0.163) | 0.308 |
| Mar | -0.470\*\* | (0.159) | 0.625 | -0.539\*\*\* | (0.143) | 0.583 |
| Apr | -0.767\*\*\* | (0.163) | 0.464 | -0.879\*\*\* | (0.148) | 0.415 |
| May | -0.841\*\*\* | (0.171) | 0.431 | -0.904\*\*\* | (0.154) | 0.405 |
| Jun | -0.906\*\*\* | (0.183) | 0.404 | -0.969\*\*\* | (0.159) | 0.379 |
| Jul | -1.256\*\*\* | (0.214) | 0.285 | -1.317\*\*\* | (0.186) | 0.268 |
| Aug | -1.033\*\*\* | (0.186) | 0.356 | -1.063\*\*\* | (0.159) | 0.345 |
| Sep | -0.927\*\*\* | (0.175) | 0.396 | -0.975\*\*\* | (0.158) | 0.377 |
| Oct | -0.701\*\*\* | (0.153) | 0.496 | -0.677\*\*\* | (0.140) | 0.508 |
| Dec | -0.491\*\* | (0.164) | 0.612 | -0.472\*\*\* | (0.141) | 0.624 |
| Constant | -4.128\*\*\* | (0.433) | 0.016 | -17.64\*\*\* | (0.954) | 0.000 |
| ln(*α*) | 0.856\*\*\* | (0.144) | 0.856 | 0.0750 | (0.176) | 0.075 |
| N Cases Wald *χ*2 | 376311304.0\*\*\* |  |  | 376311661.0\*\*\* |  |  |

Standard errors 1n parentheses. ∗ *p <* 0*.*05, ∗∗ *p <* 0*.*01, ∗∗∗ *p <* 0*.*001

We conduct auxiliary analysis to further illustrate that our findings are robust and to address comments of Lilley and Wheaton (2019) published in *Reason* magazine. Therein, they claim to have “debunked” our findings regarding the impact of Trump rallies on hate incidents in the U.S. Specifically, the authors argue that once one controls for the population, the Trump Rally effect is no longer significant. Indeed, Lilley and Wheaton (2019) state “the logarithm of population is the only correct way of controlling for population.” The authors reference a math journal article <https://www.mathematica-journal.com/2013/06/negative-binomial-regression/> as the justification for requiring a log transformed population variable. Although the article does offer a detailed discussion of a negative binomial regression model including a discussion of the log-likelihood function, it does not state nor imply the log transformed population variable is the “only correct way” to account for population size. As such, Lilley and Wheaton provide no accurate explanation—theoretical or empirical—of the need to use the log transformation of the county-level population. Thus, if a logged transformed measure of county-level population is the only way they find the Trump Rally measure insignificant, then this is particularly problematic given further auxiliary analysis produces results that are consistent with our initial finding.

To illustrate the auxiliary analysis conducted, first consider the models presented in Table C of this response. Table C includes two models utilizing different methods of accounting for the population make-up of counties: Model 1 includes a measure of county-level population and Model 2 includes the log transformed measure of county-level population. The Model 1 findings demonstrate the effect of Trump rally persists after including county-level population. Further, the effect of Trump rally on county-level hate incidents remains quite sizable. When controlling for county-level population, the incident rate ratio increases by 118% in county's that hosted a Trump rally when controlling for the county population. In contrast Model 2 with the log transformed county-level population measure renders a non-significant effect for the Trump Rally. However, the non-significant finding is produced because the effect of Trump rallies is washed-out by the inclusion of the logged population measure. The inclusion of the log population measure creates a complete suppression of Trump rally effect, which results in the Trump variable seemingly no longer impacting hate incident rates. The importance and test for mediating variables is well documented (see Baron and Kenny 1986; MacKinnon, D. P., Krull, J. L., and Lockwood, C. M. 2000). Based on Baron and Kenny (1986), we executed the four steps necessary to determine whether the logged population measure is mediating the effect of Trump rallies. The results are presented in Table D (immediately following this discussion). Step 1 requires estimating the model with the Trump Rally measure and omitting the log population measure, which is the original model. Here we find the Trump Rally effect is statistically significant. Step 2 requires estimating a regression model where the dependent variable is the logged county-level population. The findings indicate counties that hosted Trump rallies have a significantly higher logged county population than compared to counties that did not host a Trump Rally. Step 3 requires estimating a logit model predicting whether or not a county hosted a Trump Rally. The findings indicate as the logged county-level population increases, the probability of hosting a Trump rally significantly increases. Step 4 requires estimating the negative binomial regression model including both Trump rally and the mediating variable—logged county-level population. The findings indicate Trump Rally is not significant, while the logged population measure is positively and significantly related to hate incidents. Further, this auxiliary analysis confirms that regardless of the transformation of the population variable the impact of Trump rallies on county-level hate incidents is positive and significant.

In conclusion, Lilley and Wheaton (2019), in our opinion arrived at a misleading conclusion because they failed to consider or account for the mediating effect of the log transformed variable on the relationship between Trump rallies and county-level hate incidents.

**Table D. Mediating Effect of Log Population**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Step 1 | Step 2 | Step 3 | Step 4 |
| Coef. | S.E. | Coef. | S.E. | Coef. | S.E. | Coef. | S.E. |
| Trump Rally | 1.182\*\*\* | (0.183) | 1.356\*\*\* | (0.089) |   |  | 0.180 | (0.136) |
| # Hate Groups | 0.021\*\*\* | (0.005) | 0.017\*\*\* | (0.001) | -0.0282\*\*\* | (0.006) | -0.005 | (0.004) |
| Log County Pop. |   |  |   |  | 1.299\*\*\* | (0.101) | 1.211\*\*\* | (0.069) |
| Jewish Pop. | 0.000\*\*\* | (0.000) | 0.000\*\*\* | (0.000) | -0.000\* | (0.000) | 0.000\*\* | (0.000) |
| Violent Crime | 0.009\* | (0.004) | -0.002 | (0.003) | 0.013 | (0.008) | 0.013\*\*\* | (0.002) |
| Property Crime | -0.002 | (0.002) | 0.001 | (0.001) | -0.002 | (0.002) | -0.002\* | (0.001) |
| % Rep 2012 | -0.0469\*\*\* | (0.006) | -0.023\*\*\* | (0.002) | -0.012 | (0.007) | -0.016\*\* | (0.006) |
| College | 0.0517\*\*\* | (0.008) | 0.050\*\*\* | (0.003) | 0.019 | (0.011) | 0.027\*\*\* | (0.008) |
| South | -0.634\* | (0.299) | 0.311\*\*\* | (0.080) | 0.921\*\* | (0.285) | -0.054 | (0.201) |
| Northeast | 0.589\* | (0.295) | 0.580\*\*\* | (0.106) | 1.194\*\*\* | (0.354) | 0.840\*\*\* | (0.205) |
| Midwest | -0.410 | (0.277) | 0.029 | (0.079) | 1.102\*\*\* | (0.292) | -0.204 | (0.243) |
| Jan | -0.940\*\*\* | (0.190) | 0.071\*\*\* | (0.007) | -2.323\*\*\* | (0.194) | -1.114\*\*\* | (0.177) |
| Feb | -0.992\*\*\* | (0.163) | 0.061\*\*\* | (0.007) | -1.677\*\*\* | (0.145) | -1.177\*\*\* | (0.163) |
| Mar | -0.388\* | (0.151) | 0.051\*\*\* | (0.006) | -1.231\*\*\* | (0.112) | -0.539\*\*\* | (0.143) |
| Apr | -0.722\*\*\* | (0.170) | 0.039\*\*\* | (0.005) | -0.830\*\*\* | (0.086) | -0.879\*\*\* | (0.148) |
| May | -0.755\*\*\* | (0.171) | 0.033\*\*\* | (0.004) | -0.679\*\*\* | (0.076) | -0.904\*\*\* | (0.154) |
| Jun | -0.745\*\*\* | (0.182) | 0.029\*\*\* | (0.004) | -0.583\*\*\* | (0.070) | -0.969\*\*\* | (0.159) |
| Jul | -1.182\*\*\* | (0.204) | 0.026\*\*\* | (0.004) | -0.512\*\*\* | (0.064) | -1.317\*\*\* | (0.186) |
| Aug | -0.947\*\*\* | (0.169) | 0.019\*\*\* | (0.003) | -0.351\*\*\* | (0.052) | -1.063\*\*\* | (0.159) |
| Sep | -0.931\*\*\* | (0.166) | 0.013\*\*\* | (0.002) | -0.237\*\*\* | (0.043) | -0.975\*\*\* | (0.158) |
| Oct | -0.684\*\*\* | (0.144) | 0.002\* | (0.001) | -0.037\* | (0.017) | -0.677\*\*\* | (0.140) |
| Dec | -0.442\*\* | (0.171) | 0.000 | (0.000) | 0.004 | (0.004) | -0.472\*\*\* | (0.141) |
| Constant | -3.137 \*\*\* | (0.460) | 9.830\*\*\* | (0.160) | -17.28 \*\*\* | (1.258) | -17.64\*\*\* | (0.954) |
| ln(*α*)Wald *χ*2 | 1.388 \*\*\*1014.8\*\*\* | (0.170) |  |  | 450.0\*\*\* |  | 0.07501660.97\*\*\* | (0.176) |
| F-Test |  |  | 105.11\*\*\* |  |  |  |  |  |
| N Cases | 37631 |  | 37631 |  | 37631 |  | 37631 |  |

Standard errors 1n parentheses. ∗ *p <* 0*.*05, ∗∗ *p <* 0*.*01, ∗∗∗ *p <* 0*.*001