README:

Article Title: “The Diffusion of State Firearm Regulations”
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Computing Environment:

-Windows 11
-64 GB RAM
-4.7 GHz 8-core Processor
-RStudio ver. 4.2.2

Replication Runtime:

-For figures in the manuscript, it takes roughly 2-3 hours
-Appendix model 1 takes roughly 45 mins
-NOTE: Network Event History Analysis (NEHA) is very RAM-intensive; more cores equals more RAM

Scripts/Files:

-”NEHA_Execute.RMD” is the file that includes all analyses

-There are 3 datasets; each dataset is the same data, but each is transformed differently
-”Final_Long_Dataset.csv” is used to create the summary statistics (Table 3)
-”Final_Long_Scaled_Dataset.csv” is used for the NEHA analysis (Models 1-3). This dataset’s covariates are scaled (mean 0 sd 1).
-”Final_Long_Scaled_Dataset_Lag.csv” is for Appendix Model 1. This dataset is scaled and includes a lag for the “Neighbor_Adopt_Prop” variable.

-Additionally, there is a “Presidential_Results_2020.csv” file used for creating the NEHA visualization colors (Figure 3)

Dependencies:

-I use these libraries from CRAN in my script:

```
library(haven)
library(tidyverse)
library(summarytools)
library(patchwork)
library(ggplot2)
library(maps)
library(glmmTMB)
library(xtable)
library(texreg)
library(scales)
library(ggeffects)
library(igraph)
```

-The last dependency is the NEHA package from Desmarais Lab on Git. That package can be found here: https://github.com/desmarais-lab/neha

-NOTE: It's NECESSARY that rJava is installed. This requires the Java Development Kit (JDK) to be installed on the computer/HPC. This can be finicky on HPCs and will depend on the Linux environment.

-rJava CRAN notes that JDK 1.2 or higher (the GNU make) must be used

-https://www.oracle.com/java/technologies/downloads/