

Project Proposal

due October 11, 2021 by 11:59 PM

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Load Packages

```
library(tidyverse)
library(readxl)
library(tinytex)
```

Load Data

```
Counties_by_Race <- read_excel("~/R/Team-E-T/data/Counties_by_Race.xlsx")
Counties_by_Ethnicity <- read_excel("~/R/Team-E-T/data/Counties_by_Ethnicity.xlsx")
Counties_by_LEP <- read_csv("~/R/Team-E-T/data/Counties_by_LEP.csv")
Counties_by_FI_March21 <- read_excel("~/R/Team-E-T/data/Counties_by_FI_March21.xlsx",
  sheet = "County - 2021 Projections")
Counties_by_VLFI_March21 <- read_excel("~/R/Team-E-T/data/Counties_by_VLFI_March21.xlsx",
  sheet = "County - 2021 Projections")
Counties_by_FI_2019 <- read_excel("~/R/Team-E-T/data/Counties_by_FI_2019.xlsx",
  sheet = "2019 County")
```

Introduction and Data, including Research Questions

(The introduction should introduce your general research question and your data (where it came from, how it was collected, what are the cases, what are the variables, etc.). Your research questions should be clearly specified. The motivation for your research question should be clear, with citations to relevant literature as appropriate.)

Glimpse

(Please use `glimpse` for your data, uploaded into the data folder, here.)

```
glimpse(Counties_by_Race)
```

```
## Rows: 22,084
## Columns: 8
## $ Notes      <chr> NA, NA, NA, NA, NA, NA, "Total", NA, NA, NA, NA, NA, NA, ~
## $ State      <chr> "Alabama", "Alabama", "Alabama", "Alabama", "Alabama", "~
## $ `State Code` <dbl> 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, ~
## $ County     <chr> "Autauga County, AL", "Autauga County, AL", "Autauga Cou~
## $ `County Code` <dbl> 1001, 1001, 1001, 1001, 1001, 1001, 1001, 1003, 1003, 10~
## $ Race       <chr> "American Indian or Alaska Native", "Asian", "Black or A~
## $ `Race Code` <chr> "1002-5", "A", "2054-5", "NHOPI", "2106-3", "M", NA, "10~
## $ Population <dbl> 2884, 6661, 115230, 574, 472067, 10313, 607729, 16945, 2~
```

```
glimpse(Counties_by_Ethnicity)
```

```
## Rows: 9,512
## Columns: 8
## $ Notes      <chr> NA, NA, "Total", NA, NA, "Total", NA, NA, "Total", NA~
## $ State      <chr> "Alabama", "Alabama", "Alabama", "Alabama", "Alabama"~
## $ `State Code` <dbl> 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, ~
## $ County     <chr> "Autauga County, AL", "Autauga County, AL", "Autauga ~
## $ `County Code` <dbl> 1001, 1001, 1001, 1003, 1003, 1003, 1005, 1005, 1005,~
## $ Ethnicity  <chr> "Hispanic or Latino", "Not Hispanic or Latino", NA, "~
## $ `Ethnicity Code` <dtm> 2135-02-01, 2186-05-01, NA, 2135-02-01, 2186-05-01, ~
## $ Population <dbl> 16187, 591542, 607729, 100257, 2148478, 2248735, 1281~
```

```
glimpse(Counties_by_FI_2019)
```

```
## Rows: 3,142
## Columns: 18
## $ FIPS      <dbl> 1~
## $ State     <chr> "~
## $ `County, State` <chr> "~
## $ `2019 Food Insecurity Rate` <dbl> 0~
## $ `# of Food Insecure Persons in 2019` <dbl> 8~
## $ `Low Threshold in state` <dbl> 1~
## $ `Low Threshold Type` <chr> "~
## $ `High Threshold in state` <dbl> 1~
## $ `High Threshold Type` <chr> "~
## $ `% FI Low Threshold` <dbl> 0~
## $ `% FI Btwn Thresholds` <dbl> 0~
## $ `% FI > High Threshold` <dbl> 0~
## $ `2019 Child food insecurity rate` <dbl> 0~
## $ `# of Food Insecure Children in 2019` <dbl> 2~
## $ `% food insecure children in HH w/ HH incomes below 185 FPL in 2019` <dbl> 0~
## $ `% food insecure children in HH w/ HH incomes above 185 FPL in 2019` <dbl> 0~
## $ `2019 Cost Per Meal` <dbl> 3~
## $ `2019 Weighted Annual Food Budget Shortfall` <dbl> 4~
```

```
glimpse(Counties_by_FI_March21)
```

```
## Rows: 3,142
## Columns: 18
## $ `County, State` <chr> ~
```

```
## $ FIPS <dbl> ~
## $ State <chr> ~
## $ `Total Population` <dbl> ~
## $ `2019 Food Insecurity %` <dbl> ~
## $ `2019 Food Insecurity #` <dbl> ~
## $ `[Revised Projections - March 2021]\r\n2021 Food Insecurity %` <dbl> ~
## $ `[Revised Projections - March 2021]\r\n2021 Food Insecurity #` <dbl> ~
## $ `[Revised Projections - March 2021]\r\n2021 Food Insecurity % Change` <dbl> ~
## $ `[Revised Projections - March 2021]\r\n2021 Food Insecurity # Change` <dbl> ~
## $ `[Revised Projections - March 2021]\r\nAdjusted Annual Unemployment Change` <dbl> ~
## $ `Total Child Population` <dbl> ~
## $ `2019 Child Food Insecurity %` <dbl> ~
## $ `2019 Child Food Insecurity #` <dbl> ~
## $ `[Revised Projections - March 2021]\r\n2021 Child Food Insecurity %` <dbl> ~
## $ `[Revised Projections - March 2021]\r\n2021 Child Food Insecurity #` <dbl> ~
## $ `[Revised Projections - March 2021]\r\n2021 Child Food Insecurity % Change` <dbl> ~
## $ `[Revised Projections - March 2021]\r\n2021 Child Food Insecurity # Change` <dbl> ~
```

```
glimpse(Counties_by_VLFI_March21)
```

```
## Rows: 3,142
## Columns: 18
## $ `County, State` <chr> ~
## $ FIPS <dbl> ~
## $ State <chr> ~
## $ `Total Population` <dbl> ~
## $ `2019 VLFS %` <dbl> ~
## $ `2019 VLFS #` <dbl> ~
## $ `[Revised Projections - March 2021]\r\n2021 VLFS %` <dbl> ~
## $ `[Revised Projections - March 2021]\r\n2021 VLFS #` <dbl> ~
## $ `[Revised Projections - March 2021]\r\n2021 VLFS % Change` <dbl> ~
## $ `[Revised Projections - March 2021]\r\n2021 VLFS # Change` <dbl> ~
## $ `[Revised Projections - March 2021]\r\nAdjusted Annual Unemployment Change` <dbl> ~
## $ `Total Child Population` <dbl> ~
## $ `2019 Child VLFS %` <dbl> ~
## $ `2019 Child VLFS #` <dbl> ~
## $ `[Revised Projections - March 2021]\r\n2021 Child VLFS %` <dbl> ~
## $ `[Revised Projections - March 2021]\r\n2021 Child VLFS #` <dbl> ~
## $ `[Revised Projections - March 2021]\r\n2021 Child VLFS % Change` <dbl> ~
## $ `[Revised Projections - March 2021]\r\n2021 Child VLFS # Change` <dbl> ~
```

```
glimpse(Counties_by_LEP)
```

```
## Rows: 369
## Columns: 6
## $ TBLID <chr> "TITLE:", "R1603", "R1603", "R1603", "R1603", "R1603", "R1603~
## $ GEOID <chr> "PERCENT OF PEOPLE 5 YEARS AND OVER WHO SPEAK ENGLISH LESS TH~
## $ GEONAME <chr> NA, "Houston County, Alabama", "Jefferson County, Alabama", "~
## $ PROFLN <dbl> NA, 54, 54, 54, 54, 54, 54, 54, 54, 54, 54, 54, 54, 54, 5~
## $ ESTIMATE <dbl> NA, 1.0, 2.6, 2.5, 2.7, 5.3, 2.1, 6.5, 4.9, 8.1, 8.5, 5.5, 4.~
## $ MG_ERROR <chr> NA, "+/-0.4", "+/-0.3", "+/-0.6", "+/-0.4", "+/-1.0", "+/-0.6~
```

Data Analysis Plan

(Specify the outcome (response, Y) and predictor (explanatory, X) variables you will use to answer your question, as well as the comparison groups you will use, if applicable. You may include very preliminary exploratory data analysis, including some summary statistics and visualizations, along with some explanation on how they help you learn more about your data. Note the statistical method(s) that you believe will be useful in answering your question(s). What results from these specific statistical methods are needed to support your hypothesized answer?)