

Human Trafficking: Close to Home

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Abstract

Human trafficking is a nasty and scary scar that occurs not only in the United States but around the world. Unfortunately, there is little available that informs the people on just how prevalent human trafficking is and who is responsible. This capstone project provides a clearer look into the demographics and locations of human trafficking incidences. More specifically I will be looking into data that goes beyond the explicit human trafficking cases and connecting them to locational information like poverty, race demographics, and population density. My intentions are to create a comprehensive map between human trafficking crimes and other crime for people to become more informed of just how in danger they could be. In conclusion, by examining different and less obvious data sets, I will expose to the people of the United States how close to their home human trafficking really is.

Definition

U.S Law defines human trafficking as the use of force, fraud, or coercion to compel a person into commercial sex acts or labor services against his or her will.

Different than kidnapping by means of asportation and confinement of a person against their will, usually for ransom.

Operationalized Research Questions

What impact or relationship is there between geographical information and human trafficking?

Does location information like population, income, police presence and race affect the likelihood of human trafficking in that area?

Can infrastructure of a given area also affect human trafficking in terms of number of schools or commercial ports in that area?

Data and Analytic Methods

Data

Trafficking Data source: Human Trafficking Hotline (No official Law Enforcement Database could be used, due to under-reporting)

Data range from 2015-2019 for most variables except population data that originated from the 2010 Census

Analytic Methods

Simple linear regression to identify significant influences

Multiple regression of key predictors to create a predictive model in order to identify states that could be under-reporting cases

Variables Tested

Geographical Data

Border state (either Canada or Mexico), Mexico border state, coastal state

Locational Data

Law enforcement agencies, sworn police officers, police per 100k, median income, population, population density, percent race distribution, crime numbers, and crime rates

Infrastructure Data

School count, number of ports, number of interstate highways

Key predictors

Population, number of interstate highways, number of law enforcement agencies, crime numbers, whether a state borders Mexico, and if the state is a coastal state

Outcomes

Fifteen states could be under-reporting cases by over 200, while seven states report cases greater than 200 over the prediction

Washington state has reported nearly 950 fewer cases than expected, with Tennessee and California under-reporting by over 600 cases

Georgia has reported nearly 2500 cases more than expected, with Florida and Nevada over-reporting by nearly 800 cases

Conclusions

Insignificant Influence on human trafficking:

- Police per 100k population
- Median income
- Population density
- Percent race distribution
- Number of maritime ports
- If a state borders Canada

Significant influence on human trafficking:

- Number of law enforcement agencies
- Number of sworn police officers
- Population
- Violent and property crime numbers
- Whether a state borders Mexico
- Whether a state is coastal
- The number of interstate highways in a state
- The number of schools in a state

This model does not speak for the different laws each state has that helps combat human trafficking, nor those protections granted to the victims. Because each state handles human trafficking differently in the way they categorize a case and how they go about the prosecution of the perpetrators and victims, case numbers can vary between similar states.

Heatmap of Prediction Results and Reported Cases

States are labeled with their reported cases.

Red states are under-reporting based on the predictions.

Orange states are over-reporting based on the predictions.

