

Final Project

1. Introduction:

a. What research question are you asking?

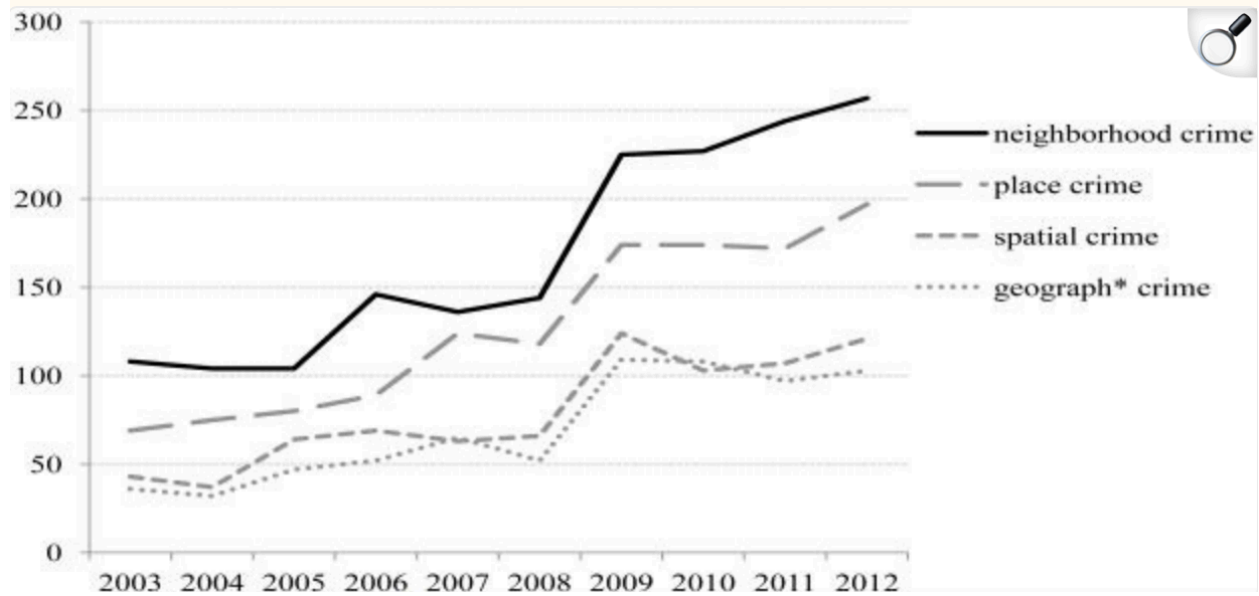
I am researching into an individual's impression of government expenditure to reduce crime rates.

b. Why is this topic interesting/important on a personal level? On a societal level?

This is an essential political problem since crime rates in the United States have been recognized as extremely high when it comes to gun violence and protecting the safety of others. This topic is fascinating to me since crime prevention on economic development is crucial to economic values and psychological calm, with a reduction in public costs and societal stability.

c. What is already known about this topic? You must cite evidence (news article, report, academic journal article). Include at least 1 data table or data visualization in your description of previous findings.

Spending on crime prevention in high-crime neighborhoods has been at the center of many studies. Evidence exists that the effective investment contributes to a reduction of crime rates and stimulates local economic growth. In fact, from academic journals, government reports, and the research of think tanks, it follows that targeted spending on policing, social services, and community programs can revitalize neighborhoods, attract businesses, and grow property values. Below is a presentation of findings based on citations with a data table. The reduction of crime prevent leads to economic growth Social programs have addressed the root cause of economic growth as well. A recent NIH article demonstrated that violent crimes in specific neighborhoods affect a person's mental stability as well as the psychological impacts of the crime. Because neighborhood crimes account for the majority of crimes reported in this article, it demonstrates the importance of the environment and psychological development.



Source: Andre M. Perry, Tawanna Black, et al. "Want to Reduce Violence? Invest in Place."

Brookings, 17 Oct. 2023,

www.brookings.edu/articles/want-to-reduce-violence-invest-in-place/?utm_source=chatgpt.com.

d. Brief overview of what you will do in your paper and your main findings:

In this paper, I will use data from the General Social Survey to investigate people's trust in the judicial system and their taxation support for the influence on public opinion about safety by leveraging a regression model to describe the relationship between the government and crime prevention.

My main finding from this research is that: The public's view on safety is strongly influenced by people's support for taxes and their trust in the legal system; the findings show that greater support for taxes intended to reduce crime is linked to higher levels of trust in the legal system, which in turn affects how people perceive public safety; demographic and socioeconomic factors are important moderators of these relationships.

2. Data and Descriptive Statistics:

a. Describe your data

i. What is the name of the survey? What does the survey include? Where is it available for download?

The survey's name is the General Social Survey (GSS). It contains the long-running sociological survey across America. It covers demographic information such as social attitudes and beliefs, political views and behaviors, and perceptions of crime and justice. I received my dependent and explanatory variables. We can obtain this survey from the official website.: (<https://gssdataexplorer.norc.ohio-state.edu/home>).

b. Table 1: table listing your qualitative and indicator variables

	Qualitative_Variables	Indicator_Variables
1	sex	sex_male, sex_female
2	race	race_white, race_black, race_other
3	courts	courts_very_harsh, courts_harsh, courts_right
4	natcrime	natcrime_too_lit, natcrime_abt_rit, natcrime_t_much
5	tax	tax_high, tax_abt_rit, tax_low
6	fear	fear_yes, fear_no

i. Include a description in addition to your variable names (medu is mother's level of educational attainment)

Variable	Description	Type
natcrime	Do you believe we are spending too much, too little, or about the right amount on halting the rising crime rate.	categorical
race	race of respondent	categorical
courts	In general, do you think the courts in this area deal too harshly or not harshly enough with criminals?	categorical
tax	do you believe your taxes are too high	categorical
sex	respondents sex	categorical
fear	Is there any area right around here--that is, within a mile--where you would be afraid to walk alone at night?	categorical

ii. Quantitative variables: describe units of measurement (years, \$, etc.)

age: Age is measured in years

year: thai variables does not have any measurement in the dataset as it is just numbers

iii. Categorical variables: explain how you converted to indicator variables (How did you group responses? What was your reasoning?).

I converted them by creating dummies for each variable that was categorical. Natcrime, Courts, and Tax have three categories that are, “too little”, “about right”, and “too much”. Variables sex and fear had two levels which got dummies 1 and 0 as well. I grouped the responses based on the level of the variables. If the response categories had a clear ranking ("too little" < "about right" < "too much"), I used numeric ordinal coding (e.g., 1, 2, 3). If the categories had no inherent ranking (race, sex), I used dummy coding. I chose this because ordinal variables help make the responses intact for ordered variables while allowing meaningful comparisons in the regression model, including that variable ensures interpretability.

c. Table 2: descriptive statistics (mean, SD, min, max).

Statistic	N	Mean	St. Dev.	Min	Max
age	71621	46.556	17.6	18	89
year	72390	1,997.72	15.11	1,972	2022
educ	72,127	13.035	3.182	0	20
sex_male	72278	0.442	0.497	0	1
sex_female	72278	0.558	0.497	0	1
race_white	72283	0.798	0.402	0	1
race_black	72283	0.141	0.348	0	1
race_other	72283	0.061	0.239	0	1
courts_very_hars h	56111	0.081	0.273	0	1
courts_harsh	56111	0.778	0.416	0	1
courts_right	56111	0.141	0.348	0	1
natcrime_too_lit	39242	0.675	0.469	0	1
natcrime_abt_rit	39242	0.262	0.44	0	1
natcrime_t_much	39242	0.063	0.244	0	1
tax_high	40248	0.61	0.488	0	1
tax_abt_rit	40248	0.369	0.483	0	1
tax_low	40248	0.013	0.114	0	1
fear_yes	45781	0.393	0.488	0	1
fear_no	45781	0.607	0.488	0	1

i. interpret means correctly

- Perceptions of Court Harshness:
 - 8% of people believe that courts are very harsh.
 - 78% of people believe that courts are harsh.
 - 14% of people believe that courts are about right.
- Perceptions of Crime Spending (natcrime):
 - 67% of people believe too little is spent on crime reduction.
 - 26% of people believe spending is about right.
 - 6% of people believe too much is spent.
- Perceptions of Taxes:
 - 61% of people believe taxes are high.
 - 37% of people believe taxes are about right.
 - 1% of people believe taxes are low.
- Fear of Crime:
 - 39% of respondents report being afraid of crime.
 - 61% of people report no fear.

ii. Describe the results and how it relates to your research topic.

In the descriptive statistics table we can look at the results that provide insights on the people's beliefs that the government spends very less on the reduction of crime rates. Looking at the fact that 67% believe that not enough is spent reducing crime, corresponding to a broad narrative that sees crime as something always present. To be certain, the feeling also varies within demographic group in the same manner that it varies along the race continuum. Statistics show that a majority of those surveyed happening to be predominantly White could well be responsible for this perception. a majority of respondents think that crime spending is not sufficient, a majority also find taxes too high 61%. This paradox indicates that people might favor more crime spending but are restricted by the level of taxation, which presents an important policy dilemma. The crime fear survey statistics (39% of respondents to the survey say that they fear) show that crime risk perception may have the potential to influence spending attitudes towards crime.

d. Two Figures showing relationships between your dependent variable and at least one explanatory variable

Figure 1

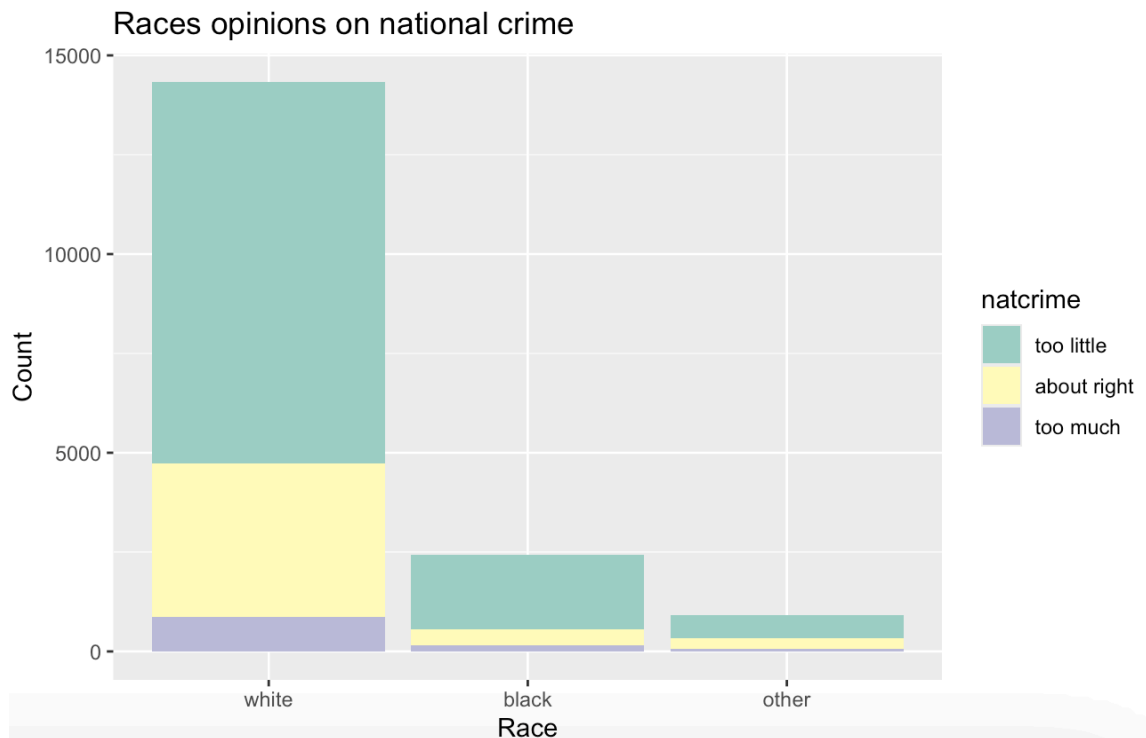
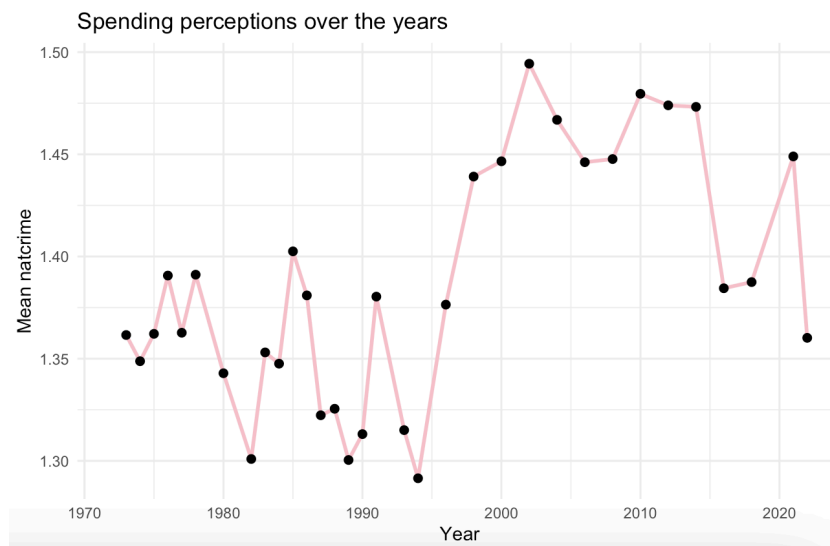


Figure 2



i. Describe the results and provide an explanation for any observed patterns.

The first figure is a stacked bar chart, presenting racial differences in public opinion on national spending on crime. The majority of white participants believe that too

little is spent on crime, followed by a lesser percent who believe that spending is about right, and a very minute minority who believe that too much is spent. The pattern is identical for Black and other races but on a very limited sample size.

The second graph, a time series plot, indicates how average crime spending attitudes have changed over time. The trends in public opinion are indicated by the data, with an overall upward trend in attitudes that spending on crime is too low throughout the 1990s and early 2000s and greater volatility in recent years. Peaks in concern may correspond with periods of rising crime rates or political discussion of crime policy.

These patterns are potentially due to sociopolitical contexts, media, and true crime trends. The higher desire among white respondents for increased spending on crime might be due to racial variations in perceived crime threats or policy priorities. The variation over time might reflect crime rate trends, policy change in government, and public discourse about safety and justice.

ii. Explain how it relates to your research topic.

These charts directly relate to my research question in that they show how attitudes towards crime spending vary by race and by period of time in America. The first chart shows demographic differences in opinions about crime spending, which would suggest that race might be at least partially responsible for the grounds for opinion whether too little, too much, or the ideal amount of money is being spent on crime control. The second graph presents a timeline, with the pattern in public opinion potentially corresponding to changes in crime rates, political shifts, or media influence. This can be used in your research by recording trends in public attitude and possibly other influences on attitudes towards spending on crime. Further analysis can explore how socioeconomic status, political affiliation, or experience with crime might influence opinion.

3. Estimation:

a. What do you want to learn and accomplish?

I'd like to study why individuals believe the government spends less on crime reduction and where the money goes instead of correcting crime rates. Based on current events, the public has noticed America offering aid to other countries during wartime. So, my goal

with this research is to show that the government takes the majority of our money and spends them on things other than crime prevention, such as the military and conflicts with other countries. I want to evaluate the elements that most strongly influence people's perceptions of crime spending.

i. Try to make your objective/hypothesis as specific as possible

I think White and Republican respondents are more likely to perceive crime spending as insufficient due to political rhetoric emphasizing law and order, whereas Black and Democratic respondents are more likely to believe crime spending is about correct or excessive due to concerns about over-policing and mass incarceration.

b. Write out your first regression model (the equation you are estimating)

$(natcrime = 1) = \beta_0 + \beta_1 \text{courts_very_harsh} + \beta_2 \text{courts_harsh} + \beta_3 \text{courts_right} + u$

i. Explain how your model will help your answer your research question.

This model is going to help me answer my question by giving the insights of by examining how perceptions of the criminal justice system (particularly, court harshness) influence thoughts on whether government spending on crime is insufficient. The binary variable $natcrime = 1$ means that people are spending very less and 0 if otherwise.

4. Results:

a. Table 4: Regression Results that show at least 4 revisions plus the final model:

i. Regression table must be presented in a formatted table.

(Natcrime = 1) too little

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
courts_very_harsh	0.016*** (0.005)	0.015*** (0.005)	0.022*** (0.005)	0.022** (0.005)	0.022** (0.0078)
courts_harsh	-0.091*** (0.005)	-0.089*** (0.005)	-0.088*** (0.005)	-0.089 (0.005)	-0.088 (0.006)
courts_right					
sex_female		-0.091*** (0.007)	-0.096	-0.096** (0.005)	-0.096 (0.004)
sex_male					
race_white			-0.003	-0.020** (0.005)	-0.016** (0.002)
race_black			-0.110*** (0.018)	-0.135** (0.005)	-0.132** (0.0049)
taxabout right				0.041**	0.040** (0.003)
taxtoo low				0.087	0.085 (0.012)
taxr pays no income tax (vol.)				0.063	0.068 (0.03)
age				0.001	0.0005** (0.05)
year					0.0004** (0.08)
educ				0.004	0.004** (0.05)
Constant	1.519*** (0.009)	1.568*** (0.010)	1.581*** (0.018)	1.507	0.671
Observations	31,308	31,308	31,294	17,737	17,737
R²	0.018	0.025	0.028		
Adjusted R²	0.018	0.025	0.028		
Residual Std. Error	0.592 (df = 31305)	0.590 (df = 31304)	0.589 (df = 31288)		
F Statistic	294.677*** (df = 2; 31305)	263.997*** (df = 3; 31304)	182.199*** (df = 5; 31288)		
			*p<0.1; **p<0.05; ***p<0.01		

b. Explain each change you made to arrive at your preferred final model:

i. Explanation of why you made the change

Making changes in each model was making sure if the coefficients remained statistically significant since we notice that adding gender, race and other variables after the court's decision kept supporting the perception of spending on national crime being too little. After adding these variables in each model the court's decision kept increasing which leads to government spending very little on crime reduction in the United states. If the courts give harsher decisions then it leads to there being more crimes because the courts have to look at different kinds of crimes. Which leads to them giving harsher decisions. Making changes in each model led to most coefficients being lower.

ii. Any notable changes in the estimated coefficients

The coefficients after adding each variable are statistically significant means that the government takes taxes but spends very less on crime reduction. Looking at model 4 the taxes are statistically insignificant which leads to people making the perception that the government is taking a lot of taxes from us but they spend too little on the reduction of national crime. The coefficients kept going in a negative perception on each model regression. The coefficients kept going down.

iii. Whether you will keep the revisions

The new factors (such as education and tax-related variables) were kept since they made a significant contribution to the model. Also adding them made the age and year absorbed in the fixed effect so the coefficients did not change significantly

c. Final (preferred) regression model:

i. Write out the regression equation for your final model.

Model 5:

$$(\text{nacrine} = 1) = \beta_0 + \beta_1 \text{courts_very_harsh} + \beta_2 \text{courts_harsh} + \beta_3 \text{courts_right} + \beta_4 \text{sex_female} + \beta_5 \text{race_white} + \beta_6 \text{race_black} + \beta_7 \text{tax_abt_right} + \beta_8 \text{tax_too_low} + \beta_9 \text{no_tax-paying} + \beta_{10} \text{age} + \beta_{11} \text{year} + \beta_{12} \text{educ} + u$$

ii. You can summarize most of the relationships briefly, but you should provide a more detailed analysis for at least three of the explanatory variables (at least one categorical and at least one quantitative):

Here $\text{natcrime} = 1$ presents that the government spends very less on reducing the crime rate. Which brings us to the relationship between court decisions, in the model the increase of court decisions being very harsh relates to being more crimes in the neighborhood because if there are more harsh court decisions means the government is spending less money on crime reductions. With that relationship between tax and national crime leading to a positive number suggests the government charges us an exact amount of tax but uses that tax to spend on other priorities like wars with other countries and giving aid to countries that are causing a lot of destruction.

Detailed Analysis of Three Variables

1. sex_female (Categorical Variable)

Interpretation: This is a binary variable where 1 represents females and 0 represents males. The coefficient (β_4) defines the effect of being female on the likelihood of $\text{natcrime} = 1$ compared to males.

Expected Relationship: Females have higher negative perception on government spending less compared to males .

Implications: A negative β_4 suggests that females have a negative perception of crime spending. This agrees with the criminological literature in which males are more likely to offend. Policy makers may direct gender-specific initiatives to address crime.

2. age (Quantitative Variable)

Interpretation: The variable is the age of the individuals. The coefficient (β_8) suggests the change in the probability of $\text{natcrime} = 1$ for a one-unit change in age.

Expected Relationship: Crime increases during late adolescence and early adulthood and falls with age. We would therefore expect a negative coefficient.

Implications: If β_8 is positive, then this suggests that older individuals are aware that crime spending decreases.

3. educ (Quantitative Variable)

Interpretation: This is the educational level of individuals. The coefficient (β_{10}) informs us about the effect of a one-unit increase in education on the probability of $\text{natcrime} = 1$.

Expected Relationship: More education is generally associated with less crime, as education provides greater opportunities and reduces economic pressure. So we would expect a negative coefficient.

Implications: If β_{10} is positive, it suggests that education being positive leads to government spending less on crime rates

1. Interpret the coefficients correctly to explain the relationship between the explanatory variables and the dependent variable. Discuss their statistical significance.

Qualitative variables:

- courts_very_harsh - If courts give very harsh punishments leads to 0.022 higher chance that people perceive there is less spending on crime on prevention. This leads to it being statistically significant at 5% level.
- Courts_harsh - people perceiving for courts to give a harsh punishment leads to -0.088 chance for people to believe that national crime spending is about right. However this is not statistically significant at 5% level
- sex_female = females have a -0.096 point perception on government spending less on reductions of crime rates compared to men. However this variable is statistically insignificant at 5% level.
- Race_white = The probability of white people believing that the government is spending too much on crime reduction is -0.016 less chance of believing it. It is statistically significant at 5% level of significance.
- race-black = the probability of black people believing that the government spends too much on crime reduction is -0.132 points less compared to white people. As it is statistically significant as well.
- Tax_abt_right = People paying a high amount of tax have a 0.040 higher chance of believing that the government is spending less to reduce crime. Making it statistically significant
- Tax_too_low = People who believe that the government is charging less taxes are 0.085 points higher chance to believe that the government is spending less money. However it is statistically insignificant.

- Tax_no_pay = people who believe that the government charging no taxes have 0.065 points higher chance to believe that the government is spending less on crime. However, it is statistically insignificant.

Quantitative variables

- Age = For an additional year of education. The probability of people believing that the government spends less on crime reduction increases by 0.0005 points. It is statistically significant but very close to 0.
- Year = Every year the probability of people believing that the government spends less on crime reduction increases by 0.0004 points. It is statistically significant but very close to 0.
- Education = More years of attaining education increases the probability of people believing that the government spends less on crime reduction by 0.004 points. It is statistically significant but very close to 0.

2. Discuss what the results actually mean economically. What did you learn with respect to your research topic? How is this connected to other findings?

The results suggest that the Government prioritizes spending our money on other things like wars and giving aid to countries like Israel to commit more war crimes towards other crimes. We have noticed a rise in the US giving aid and weapons from our taxes to help that country. We have also noticed an increase in national crimes around the country regarding each city crime. From this topic I learned that the government does not give priority to their own citizens many times. This is connected to the finding I did in the article by showcasing that there has been a hike of crimes in the United States over the years.

5. Conclusion:

a. Recap what you did, then tell me if your answer matched your prior beliefs

I looked at the general social survey of people's opinion on government spending on crime reduction, I wanted to look at their perception of how safe do they feel in their city and this does match with my belief because being a person of color I have noticed that police doesn't pay attention to our reports compared to other races. But I had a prior belief

that white people get more priority but that changed from this data set that they also have less belief that the government does not help them.

b. How did these findings contribute to the literature?

These contributed to the literature by providing insights on government's actions towards their own people.

c. What is the take-away message

The takeaway message is that the government does spend less on reducing crime rates in every state as there are laws that do not perceive certain crimes as crimes. So it concludes that people have a negative perception about the government being safe for people.