

A Comparison of Estimated Rates and Trends of Sexual Violence by Three Different Federal Agencies, 1995-2017

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Abstract

Sexual violence is a crime that is often the source of controversy, from disagreements over true prevalence to varying definitions. We don't have a full picture of this problem and that leads to many complications such as inconsistent estimates and disagreeing trends, making the issue more difficult to combat. In this analysis, we used data from the CDC, FBI, and DOJ to look into rates of victim reporting to the police from 1995-2010. We also used the data to discern trends of sexual violence from 2010 to 2017, as well as to observe any discrepancies between the rates reported in the data from the different agencies. Finally, we compared those discernable trends and rates to arrest records to view how data regarding arrests juxtaposes data involving estimates of sexual violence.

1. Introduction

Sexual violence affects huge portions of the US population and is increasingly relevant in today's society due to its violent and long term effects. Survivors often struggle with their experiences for the rest of their lives, and perpetrators often go unpunished because of underreporting and attrition of legal cases (*Canadian Journal of Women and the Law*).

As a result of this, many organizations struggle to estimate the full scope of the issue because of differences in definitions, surveying methods, and overall goals of their research. For example, crime reports such as the Uniform Crime Report (UCR) from the Federal Bureau of Investigation (FBI) and the National Criminal Victimization Survey (NCSV) of the Department of Justice (DOJ) come up with extremely different data than the National Intimate Partner and Sexual Violence Survey (NISVS) from the Centers for Disease Control (CDC). Those differences make the true pervasiveness of sexual violence difficult to gauge.

Our goal for this analysis is to ascertain how accurate current data is regarding incidents of sexual violence and how that data compares to data capturing offences known to law enforcement and subsequent arrests.

The focus is less upon the scope of the issue, as it is already known to be an extremely prevalent crime, and more geared towards discovering the accuracy of existing data. We are also interested in observing overall trends of sexual violence despite the possible differences in true counts and rates.

2. Data

The sources of data for this analysis are FBI's Uniform Crime Report data from 2010 to 2017, regarding arrests and cases known to law enforcement, as well as the CDC's National Intimate Partner and Sexual Violence Survey from 2010 to 2017, and the DOJ's National Crime Victimization Survey, ranging from 1995 to 2017.

Each of these datasets varies in the number of people it includes and what the data is asking. However, each covers sexual violence as a topic and is considered to be reliable sources because of their affiliation with the US federal government. The UCR Program includes data from more than 18,000 law enforcement agencies, including both federal and local groups. Each year, agencies participate voluntarily and submit their crime data to the UCR Program. The CDC uses randomized telephone calls to conduct an average total of 13,600 interviews per year for the NISVS. The NCVS is conducted by the DOJ and involves an average of 240,000 interviews across the US, both in person and over the phone. Although these are frequently referenced and considered highly reliable reports, there are significant differences in the reporting totals and averages.

The FBI's UCR reports on rape and sexual assault, both of which we grouped together under the term sexual violence. The DOJ's NCVS does the same, only covering rape and sexual violence. The CDC, however, includes both completed and attempted forced penetration, drug facilitated penetration, being made to penetrate, sexual coercion, unwanted sexual contact, and non-contact unwanted sexual experiences under the umbrella term of sexual violence. So, the three sources overlap in their definitions of rape and sexual assault, but the CDC goes further in depth. As a result, one may think that the CDC's higher estimates are only because of the difference in definition, but the CDC still shows higher numbers in the categories it shares directly with the FBI and DOJ, in addition to truly being a more in depth glimpse into sexual violence in our society.

The data was already aggregated by each source as well as being fully anonymous. It is also verified by the reliability of the sources as well as their trustworthy methodology.

3. Methodology

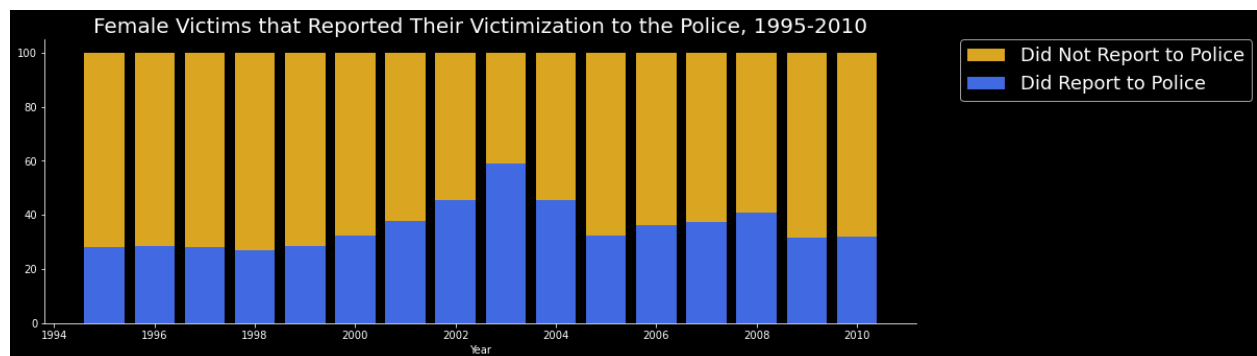
The goal of this analysis is to investigate whether different organizations collecting data on sexual violence come up with the same estimates and rates of sexual violence as one another, and how arrests then compare to those counts, rates, and trends.

The use of the term ‘sexual violence’ refers to any instance of rape, attempted rape, assault with the intent to rape, sexual assault, or any other occurrence in which there is sexual activity within which consent is not given. It is a term coined by the CDC that we expanded to broadly cover all three data sources in order to allow for accurate comparison.

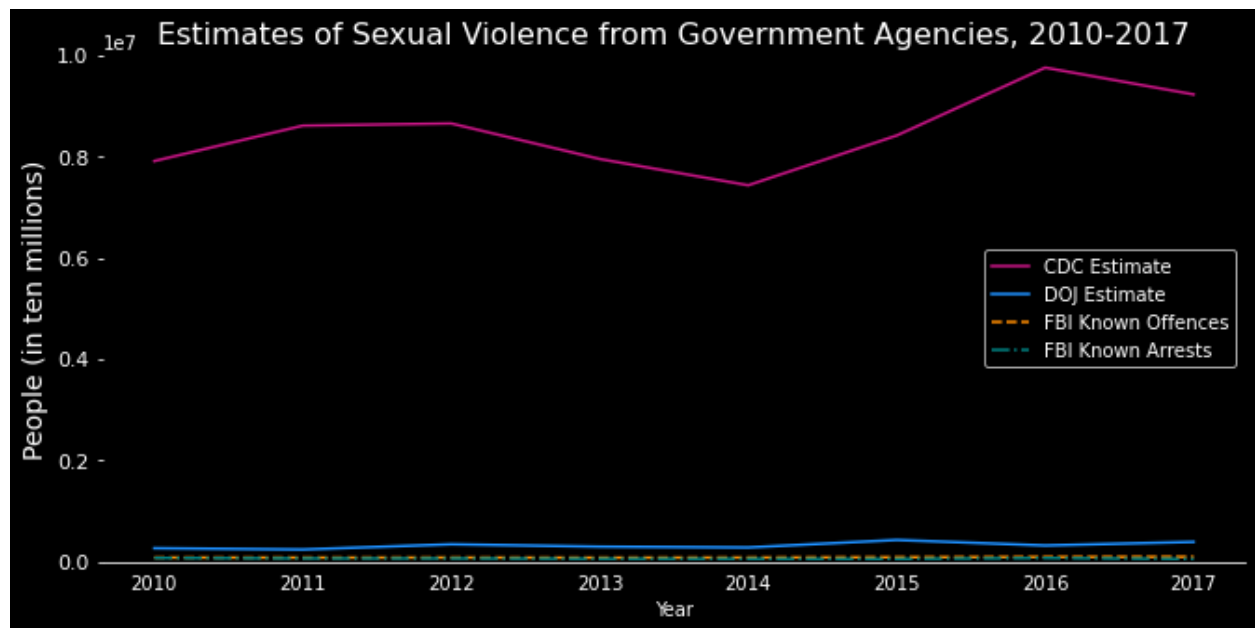
The metrics we focused on were the overall count estimates as well as the rates of reporting. Comparisons are valid across all three reports because of the expansive definition of ‘sexual violence’ that we employed that is applicable to all three. Each data set was analyzed independently and then merged and compared to one another overall, having descriptive statistics calculated as well as visualizations created.

There were no predictive models used in the analysis and therefore there are no predictive variables.

4. Visualizations

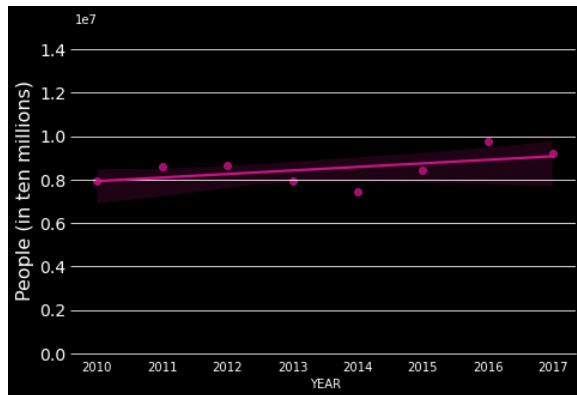


4.1 This graph is based on data from the DOJ’s National Criminal Victimization Survey, and shows the relationship between female victims who reported their victimization to the police versus those who didn’t from 1995-2010. The percentage of those who did not report is commonly significantly higher than the percentage that did report, with the average rate of reporting being 35.7% and the average rate of not reporting being 64.3%. There is only one year in which the majority of women reported to the police. This is significant because it means that a large piece of estimate discrepancies are due to inconsistent reports and underreporting.

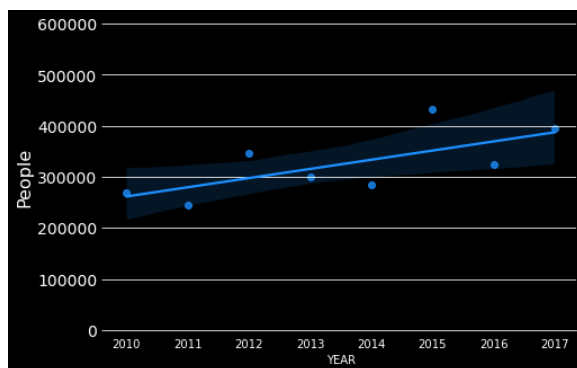


4.2 This graph represents CDC estimates with a pink line, DOJ estimates with a blue line, incidents known to the FBI and law enforcement with an dashed orange line, and arrests known to the FBI with a dash dotted green line. It shows the change of these estimates over time as well as comparing them to one another. The mean number of cases estimated by the CDC is significantly higher at 8,500,125, versus the 344,265, 64,932, and 88,454 case estimates from the DOJ, FBI arrests, and FBI known offenses respectively. The most striking thing about this graph is the substantial gap between the CDC's estimates and the DOJ and FBI estimates, meaning they disagree on the true number of cases of sexual violence per year.

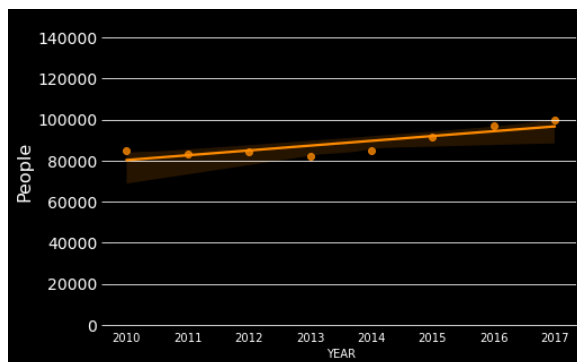
A. CDC's Estimates Trends



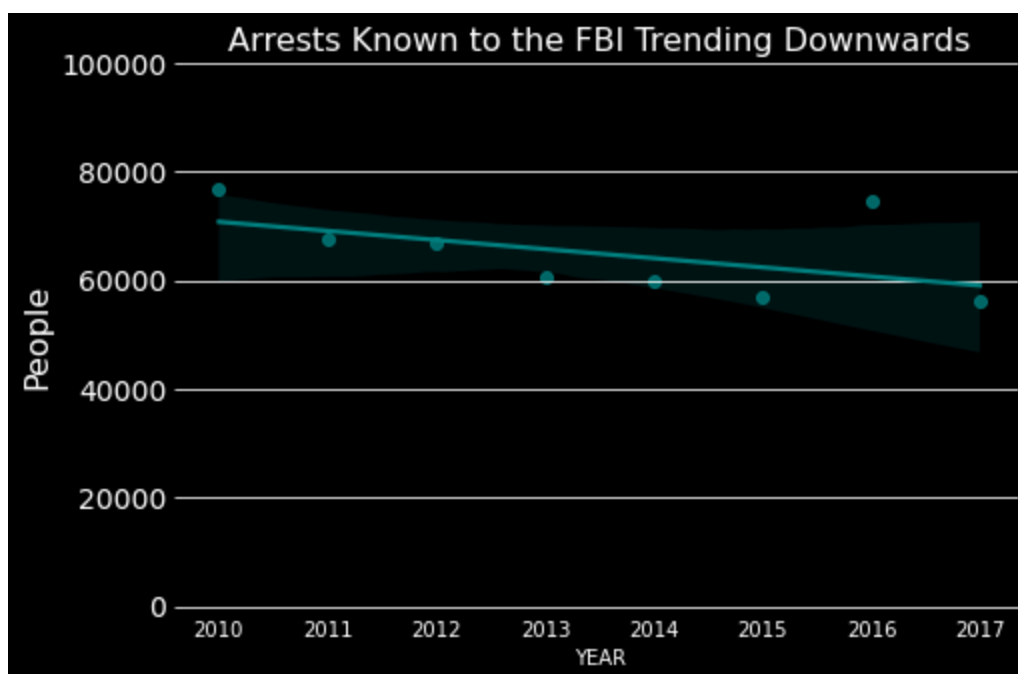
B. DOJ's Estimates Trends



C. FBI's Offenses Trends



4.3 These three graphs are linear regression models, and show the trends of each report regardless of the actual count. The pink (A) represents the CDC trends, the blue (B) the DOJ trends, and the orange (C) is FBI the trends of known offenses. So, despite the differences in counts, from these graphs it is evident that the CDC, DOJ, and offenses known to the FBI all have estimates that conclude sexual violence is trending upwards.



4.4 This graph however, is the linear regression model for arrests known to the FBI, which can be seen trending downwards. This is significant because while all three data sources regarding offense estimates agree sexual violence is on the rise, arrests, in comparison, are going down.

5. Findings

Overall, the analysis finds that there is a large issue with the underreporting of crimes regarding sexual violence, which leads to significant discrepancies in estimates of sexual violence overall. In addition to this, only female reporting rates were included by the DOJ, and men are significantly less likely than women to report their victimization, meaning the true reporting rate to police is likely a lot lower. Underreporting across all genders is thought to be a result of stigma, shame and fear of disclosure by survivors to loved ones and communities, as well as the risk of danger or not being taken seriously or believed (*Canadian Journal of Women and the Law*). In spite of this, the analysis also finds that there is evidence that incidents and occurrences of sexual violence are increasing in the United States but that arrests regarding sexual violence are decreasing. An increasing number of sexual violence survivors are coming forward about their victimizations, but arrest and prosecution rates remain low regardless. One possible explanation for this issue is a problem with the training of police officers who respond to complaints and engage with survivors. The issue is attributed to police officers struggling to support survivors while also protecting those who may be falsely accused, as well as the police officer's personal views regarding what constitutes a true sexual violence victimization (*Women and the Criminal Justice System*). Regardless of the reasoning behind these issues however, it is

essential that the underreporting of sexual violence be addressed, as well as the inconsistencies in estimates, and rising offense rate but falling arrest rate. Addressing these issues will be the beginning steps to ending sexual violence.

6. Future Work

This analysis can be further used to discover and expand ways to encourage survivors to report in order to both better gauge the pervasiveness of sexual violence as well as to increase arrests and potential justice for survivors. It can also be used as evidence to raise awareness about the frequency of sexual violence in our society, and how often the crime goes unnoticed or unreported.

7. Limitations

Some limitations of this data analysis were the differing methods each agency used to conduct its research. For example, an interviewee may be less likely to report their victimization to an in-person interviewer versus an interviewer over the phone. Another limitation is the self reporting of crime data by law enforcement. This is limiting because reporting to the UCR is not required or aggressively verified and therefore is limited in its representation of arrests and offenses. Finally, because three different datasets from three different agencies were used in the analysis there are differences in the way estimates were calculated.

8. Acknowledgements

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9. References

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