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Technical Report

Lessons Learned about Obtaining Data from the Uniform Crime Reports (UCR) and the Supplemental Homicide Reports (SHR) as provided by the Federal Bureau of Investigation (FBI)

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Abstract

When obtaining data from the FBI's Uniform Crime Reports and/or the Supplemental Homicide Reports, the process can be rather complicated but simple at the same time. In this project, the researcher needed to accurately extract the reported number of homicides and the number of cleared homicides in order to determine how many cold unresolved homicide cases exist for the period 1980-2014. This technical report addresses the nuances and processes utilized specifically for this project, and while this may not be new to many who conduct this type of research on a regular basis, others may find it helpful for future projects.

Keywords*: Uniform Crime Reports, Supplemental Homicide Reports; homicide, cleared, unsolved homicides (cold cases), SPSS, MS Excel programs*

Introduction

As a member of a research team delegated to study the status of unresolved homicides (Cold Cases) in the United States for the period 1980 through 2014, a complete review and analysis of the Uniform Crime Reports (UCR) and the Supplemental Homicide Reports (SHR) regarding reported homicides and clearances of homicides had to be conducted. While the content of the UCR was considered the main source of the data, the SHR was helpful and necessary to fill in gaps of reported data and to validate the previously reported UCR data. By using both sets the final numbers represent the most accurate accounting for the total number of reported homicides, unsolved homicides, and clearance rates for each year and state (individually or collectively).

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The UCR program has expanded in importance, size, and scope since it began over eight decades ago. The program began in 1930 with law enforcement agencies in 400 cities from 43 states, submitting crime data. It now gathers information from approximately 18,000 (Federal Bureau of Investigavtion, 2017) agencies nationwide that voluntarily contribute their crime statistics. Without the support of these agencies volunteering this data the UCR would not be able to generate a reliable set of crime statistics. The completeness of each agency's reports is crucial to a variety of sources that use this data to formulate policies, understand crime, and conduct research.

Background

Homicide is the most violent form of crime and one of the oldest puzzles in criminal justice and criminology. (Burgess, Regehr, & Roberts, 2010) But what is homicide? Homicide is defined as one taking the life of another, murder, a subcategory of homicide, is the intentional killing of one by another with malice afterthought. Agencies throughout the country participate in providing information of summarized reports to the UCR. This data is collected on eight Part I offenses, (criminal homicide, forcible rape, robbery, aggravated assault, burglary, larceny-theft, motor vehicle theft, and arson), and Part II offenses that include roughly twenty other lesser offenses.

Once a homicide has been committed police agencies within the region respond to investigate. After the investigation is as complete as possible many of these agencies then voluntarily report the information to the FBI. They repot this information by utilizing the UCR or the SHR.

The UCR was the earliest system put into place for the classification of crimes and homicides in the United States. (Burgess, Regehr, & Roberts, 2010) It started in the 1920's by the International Association of Chiefs of Police, because there was a need for national crime statistics. This need for statistics included crimes such as property crime, murder, forcible rape, robbery, burglary, larceny, arson, violent crime, motor vehicle theft, and aggravated assault. However, the focus for this research was to gather the data of reported homicides, reported solved homicides, clearance rates, and homicides still unsolved, from 1980-2014.

In order for the FBI to gather crime data, participating agencies throughout the United States voluntarily provide reports on crimes known to the police and on persons arrested. To better understand how the data is submitted see *Figure 1* below. (Federal Bureau of Investigation, 2004) The data that is reported to the FBI goes through many steps before it is published through the UCR. Before this data is released it is verified by the Crime Statistics Management Unit (CSMU) staff. The CSMU makes sure the data reported adheres to the UCR's policy and guidelines. This includes ensuring compliance with the FBI's guidelines, procedures, and ensuring that the information is based on sound statistical methods and principle of transparency.

The FBI also gives special consideration to influential information; this is data that is expected to have a clear and substantial impact at the national level, to ensure that the data is reproducible. To prevent reporting errors the FBI has a team of auditors that conduct periodic reviews of reporting agencies to make sure they are also in compliance with the national

guidelines. If errors are thought to be present the CSMU staff verifies the reported data with the submitting agency, to determine if it is correct, and if not will make a correction if needed. The data that has been verified is then published though the UCR in the form of tables and graphs that are easy to access and read for the public. To obtain the detailed data, data backing what the UCR publishes for the public, a request can be made through the FBI's website. The master files contain data that is broken down into the approximate 18,000 agencies that report to the FBI, along with the data for the eight Part 1 offenses and approximately twenty of the Part 2 offenses.

With these files being very large it is recommended that they be downloaded using a scientific software program like SPSS. Once the files are in SPSS they can then be converted into Excel files, which compresses the data making the files smaller and easier to work with. With the files now in the Excel program, formulas can be used to extract the needed data.

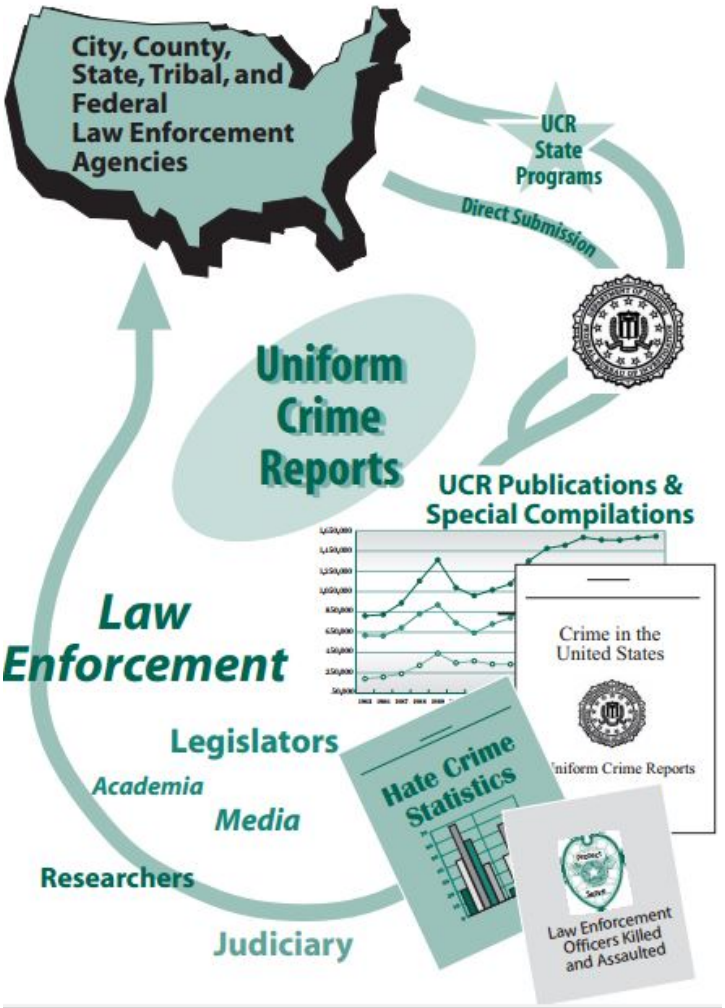

Figure 1 How the UCR obtains the data that is published. (Federal Bureau of Investigation, 2004)

Methods

The purpose of extracting this data from the UCR and the SHR was to determine of the reported homicides in the United States from 1980-2014; and to determine how many of those reported homicides were still unsolved.

The first step was to download the data from the UCR and the SHR provided on CD's by the FBI. To do this the data was opened in SPSS. The raw files for the UCR contained all reported crimes within each file. (see figure 2)

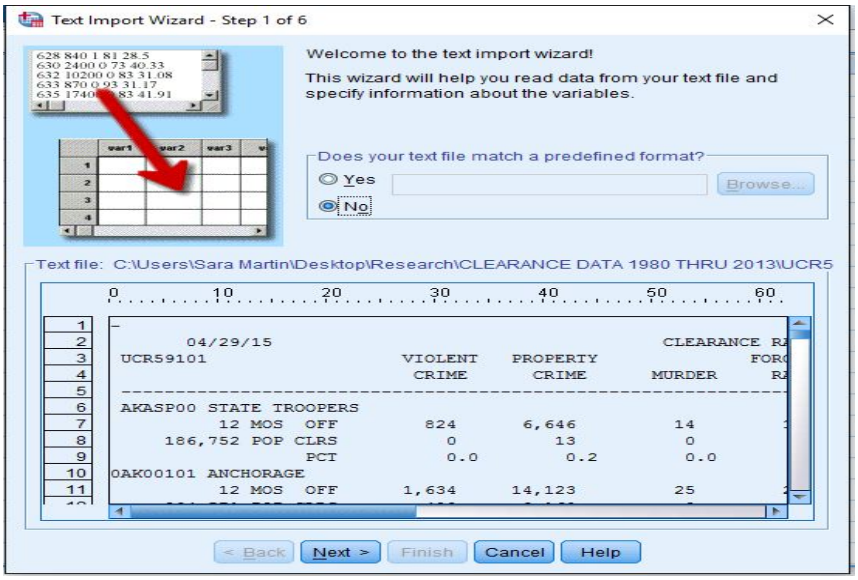

Figure 2

While the data was in a text format, SPSS read it without having to realign any of the columns. Because of this SPSS was used to create columns within the data, making it easier to delete reported crime data that was not needed. Once the reported homicides and reported solved homicide data was isolated within SPSS (see figure 3), the file was then saved, in correspondence with its year, both as an SPSS file and an Excel file.

4		MURDER
5	----------	---------
6	AKASP00 STATE TROOPERS	
7	12 MOS OFF	19
8	161,026 POP CLRS	15
9	PCT	78.9

Figure 3

After the data was transferred into Excel, a formula was created to extract the reported homicide and solved homicide data for each state. Even though the data in Excel seemed to show values these numbers were still in a text format. To turn the text formatted numbers into real numbers, a conversion was needed within the formulas. (see figure 4)

Figure 4
Shows excel not being able to read the numbers as real numbers because they are in text format.

Below is an example of what the data looks like once it is in Excel and the reported homicides and solved homicides have been extracted. (see figure 5) The District of Columbia's data was used in the example because it only has three reporting agencies. Other states have many more reporting agencies which made each spreadsheet have more than 80,000 rows of data. The formulas, described next, had to be copied into each cell to extract the data. This process was tedious but allowed for a Manuel examination of each bit of data creating a double check of the formula used.

8579	DCMPD00 WASHINGTON		0	0
8580	12 MOS OFF	482	482	0
8581	598,000 POP CLRS	286	0	286
8582	PCT	59.3	0	0
8583	DCPPD00 UNITED STATES PA		0	0
8584	0 MOS OFF	0	0	0
8585	0 POP CLRS	0	0	0
8586	PCT	0.0	0	0
8587	DCZPP00 NATIONAL ZOOLOGI		0	0
8588	12 MOS OFF	0	0	0
8589	0 POP CLRS	0	0	0
8590	PCT	0.0	0	0

Figure 5 – Extracted from data set for the Distrcit of Columbia.

To extract the number of reported homicides from the text data the following formula was used: (=IF(LEFT(A3,2)="XX",VALUE(B4),0)[2]. (See figure 6)

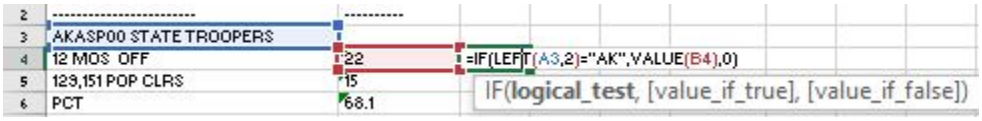

Figure 6

To extract the reported solved homicides from the text data the following formula was used: (=IF(LEFT(A3,2)="XX",VALUE(B5),0)[3]. (see figure 7)

Both formulas are logical formulas and use the VALUE function to convert the text numbers to real numbers. These formulas also place zeros in blank or null cells to keep the data aligned. The only difference between the two formulas is where the data is extracted from.

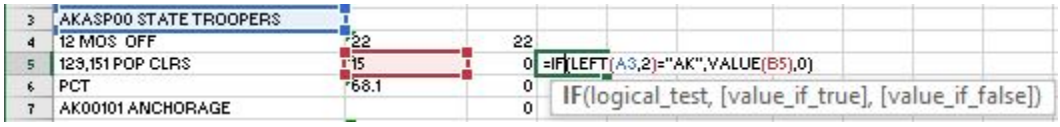

Figure 7

When going from one state to the next, the "XX" within the formulas must be changed to correspond with each state's initials. With the data now VALUED and separated into reported homicides and solved homicides the numbers could then be summarized by state so a clearance rate could be determined. This data was also put into separate columns to double check the information and make sure the formulas were functioning properly. (see figure 8)

	MURDER				HOMICIDES	SOLVED	CR	STATE
VA13600 VA MILITARY INST		0	0					
12 MOS OFF	0	0	0					
0 POP CLRS	0	0	0					
PCT	0.0	0	0		583	454	0.7787	VA
04/29/15	RANCE RAT							
UCR53101								

Figure 8

[2] This formula is extracting the data by determining if column "A" contains "XX", states initials, within the first two spaces, then value the text number one row below and one row to the right of column "A".

[3] Like with the previous one, this formula is extracting the data by determining if column "A" contains "XX", states initials, within the first two spaces, then value the text number two rows below column "A" and one to the right.

With the data now separated into reported, homicides, solved homicides, calculated clearance rates, and the state's initials, this data could then be placed into its own spreadsheet to be viewed easier and summary data could be collected.

With the UCR data now separated by year and state there were a few instances where nothing was reported. This is what prompted use of the SHR to augment the UCR data.

The biggest offender of unreported data was Illinois; they stopped reporting properly to the UCR in 1995, and in 1998 the UCR was missing data for 26 states.

Supplementary Homicide Report Data

The SHR data, also in text format, is detailed data about only reported homicides unlike the UCR. (Figure 9) Because the data was not consistent throughout and was also not in order by state; but organized by population it was easier to print the needed data and manually count both the reported homicides and unsolved homicides. Each line indicates a reported homicide detailing information about the victim and then the offender. If the homicide was unsolved, then the offender's line contained "00" for age and "U's" for unknown sex and race. (see red outline in Figure 9)

```
                                SUPPLEMENTARY HOMICIDE REPORT - FILE LISTING 1987                                UCR44300
ITCH = N                                          BY STATE WITHIN GROUP
                                              VICTIM          OFFENDER
   AGENCY    G MO HOM  INC#  SIT    A  S  R  E    A  S  R  E  WEAP  REL  CIR SUB       AGENCY NAME          STATE
 01 AL00102 1 02  A    001   B    40  M  B       00  U  U       12    UN   03       BIRMINGHAM               ALA
 01 AL00102 1     A    002   B    29  F  B       00  U  U       12    UN   99       BIRMINGHAM               ALA
```

Figure 9

The figure below (figure 10) shows an example of one victim killed by multiple offenders. When multiple offenders were listed only one offender needed to be identified for the homicide to be considered solved. In the cases where there were multiple victims each victim was counted as a separate homicide.

```
1                               SUPPLEMENTARY HOMICIDE REPORT - FILE LISTING 1991                                UCR44300
 SWITCH = N                                        BY STATE WITHIN GROUP
0                                             VICTIM                OFFENDER
     AGENCY    G MO HOM  INC#  SIT    A  S  R  E    A  S  R  E  WEAP  REL  CIR SUB       AGENCY NAME          STATE
    01 AL00102 1 01  A    001   A    75  M  B       34  M  B       12    FA   45       BIRMINGHAM               ALA
    01 AL00102 1     A    002   C    42  M  B       16  M  B       12    ST   99       BIRMINGHAM               ALA
                                                    00  M  B       12    ST   99
```

Figure 10

Once the data from the SHR was tabulated, it was added to the spreadsheets containing the UCR data to obtain more complete datasets.

Results

The results of this research showed that the overall homicide rates have declined within the United States from 1980-2014; with a spike in homicides from 1989-1993. (see figure 11) Still, even with this spike in homicides the clearance rates stayed around 60% each year.

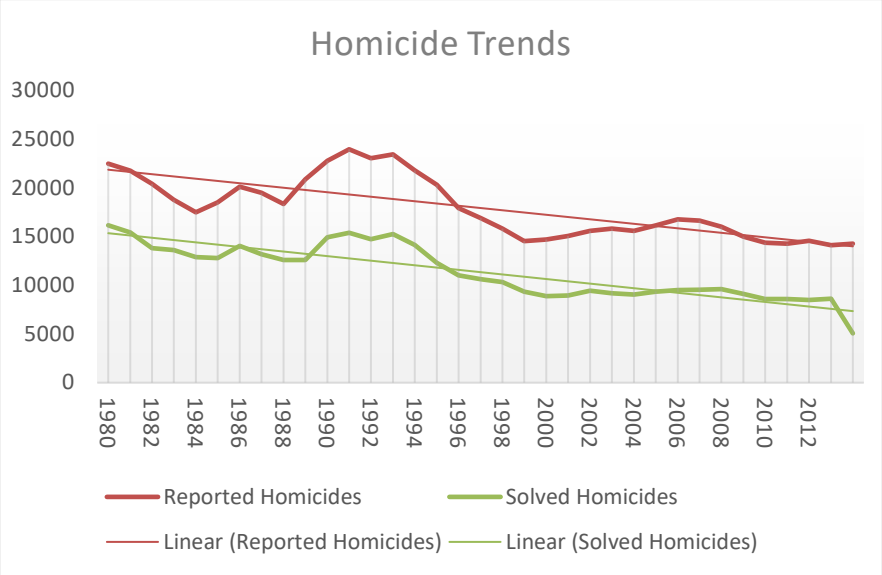

Figure 11

Discussion

From 1980 to 2014 there have been approximately 627,186 reported homicides with 396,831 being reported as solved. This represents roughly a 63.3% clearance rate. However, that leaves 230,355 reported homicides left unsolved over a 34-year span.

Besides the data reported by the Murder Accountability Project, this was/is the only other resource reflecting the high number of unresolved cases in the country. By knowing that 230,355 homicides remain unsolved should intrigue those of you reading to make the changes necessary to help increase homicide solve rates in the United States.

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