A DESCRIPTIVE ANALYSIS OF FATAL AND NON-FATAL SHOOTINGS IN KANSAS CITY, MISSOURI, FROM 2015 TO 2020

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ABSTRACT

Firearm usage in homicides has become a significant concern within the United States. While our understanding of what elements comprises a firearm-based homicide is well studied, what is not is the characteristics, and even context of non-fatal shootings happen. Both elements comprise an understanding of victims' and suspects' characteristics when examining gun violence on a greater scope. This study utilizes police records to conduct a descriptive analysis of fatal and non-fatal firearm incidents within six years.

APPROVAL PAGE

The faculty listed below, appointed by the Dean of School of Humanities and Social Sciences, have examined a thesis titled "A Descriptive Analysis of Fatal and Non-Fatal Shootings in Kansas City, Missouri, from 2015-2020," presented by Alejandro Cervantes, candidate for the Masters of Science degree, and certify that in their opinion it is worthy of acceptance.

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CHAPTER 1

INTRODUCTION

In America, many aspects are associated with gun violence, such as those victimized and how they are discussed. Whether it be the frequency with this is presented within the media or by hearing tragedy strike in a neighborhood or even school is felt worse by those living in that community. Homicides and gun violence are often used as a barometer for safety by the local media, politicians, the police, and interest groups. A myriad of factors only further hampers their presence within the communities, from the ease of access to firearms to characteristics associated with victims of gun crimes. Gun usage in crimes reflects their prevalence in how shootings may either succumb to a victim being fatally shot or non-fatally shot.

There is no doubt that gun violence occurs in many cities across the country, but how gun violence is defined and measured is an important point to explore. The research literature on homicides-based crimes is well studied and documented in exploring this topic. Institutional resources and databases make collecting and storing data like fatal shootings, or FS, easier to maintain with further updates possible to accomplish. Simply put, an FS crime scene would be able to provide necessary details like demographic characteristics and location that law enforcement could catalog when trying to solve a case. The importance of resolving such crimes isn't lost on law enforcement and the victim's family, but many FS elements are important to explore beyond just a single shooting victim.

Compared to the amount of coverage and established resources in resolving an FS, non-fatal shootings are an emerging topic that is gaining attention within the conversation about gun violence. Non-fatal shootings, or NFS, by their names alone, provide an intact victim and additional variables that can be seen alongside fatal shootings. Unlike FS, NFS

has no definitive classification or pre-established category in existing databases, making collecting and recording this data challenging. Though the literature on this topic is growing and expanding a greater understanding of how NFS is perceived alongside FS, law enforcement have started to focus on this field of study. This study notes that KCPD has recently started collecting data on NFS cases. However, this direction is not exclusive to this region or police department alone. Even though such incidents have affected many cities to varying degrees, they are not lost on those who are affected. Kansas City is an example that has seen a growing heighten in the number of homicides but also a newer focus on non-fatal shootings.

Kansas City, Missouri (KCMO) is of greater focus than other significant metropolitan cities experience: the growing concerns of homicide rates. Most homicide victims in Kansas City (and throughout the United States) are killed with a firearm. Despite law enforcement's increased focus on reducing these rates, much is noticed in how they are recorded. The focus on keeping track of homicides in a city like KCMO is not new to any region, where addressing them would ensure resources and staffing in solving those cases. Non-fatal shooting is a growing subject that local law enforcement has begun to record alongside homicides. Non-fatal shootings, by definition, involve a firearm. Therefore, logically NFS may be considered unsuccessful homicides but with the additional result of surviving victims.

This study utilizes a quantitative and descriptive approach to understanding this problem. A series of tentative research questions include:

RQ1: How frequent are gun homicides and NFS?

RQ2: Are trends in gun homicides and NFS correlated? In other words, as gun homicides increase, do NFS increase?

RQ3: Are gun homicides and NFS similar or different? For example, are victims' characteristics the same across crime types? Do gun homicides and NFS occur in the same places? At similar times? Under similar contexts?

A descriptive analysis of fatal (FS) and non-fatal shootings (NFS) within Kansas City was conducted to answer this question. This approach was made simplistic by utilizing KCPD FS and NFS data that ranges from 2015 through 2020 overall. Between both datasets, certain variables were standard, like the victim's demographics and time of event alongside the patrol division location where the crime occurred. More variables were present within the FS dataset than in NFS due to elements more common within an FS than NFS may not have. In order to ensure uniformity between the two datasets, some recoding was required. After the recoding, they were merged into a singular set to run later within SPSS, a computer software that computes data with multiple arrays of statistical analysis options.

CHAPTER 2

LITERATURE REVIEW

Guns in America

The presence and commonality of a firearm within American society have stretched into the facet of criminal activities. The role firearms play in homicide rates is further highlighted by their ownership and usage during such crimes. While the United States doesn't have a comprehensive registry of firearms in circulation or a database of existing serial numbers related to current gun owners, much of how we understand firearms is closely intertwined with what role they can play when committing a crime. If a firearm was used in a homicide, what elements might be observed in comprehending critical features in its utilization? Various firearm designs exist, ranging from different caliber sizes to levels of discrete or compact designs that can be acquired by various means, legally or not. How and what characteristics of firearms are most commonly used to even methodology to purchase one are explored by many organizations devoted to exploring this issue alongside current legislative policies that attempt to curb such violence.

While the roles of a firearm in homicide rates are frequent, the number of firearms present within this country and their characteristics of them are crucial points to explore here. In the scope of private circulation, an average of 200 million to 250 million firearms are floating in the current market, with handguns representing one-third of such (Cook & Ludwig, 2009). Handguns would make up 62% of gun ownership when accounting for one single firearm being owned, with such rationale for having a firearm noted for self-defense purposes at 67% (Pew Research Center, 2017). Acquiring a firearm is simplified when observing how the gun market operates within the parameters of the law. With the regulation

of the 1968 Gun Control Act prohibiting underage people and past criminal history from buying guns while being strengthened with background checks via the 1994 Brady Act, the availability of guns on the secondary market would influence the majority of gun crimes (Cook & Ludwig, 2009). The rationale behind purchasing and owning a firearm is rooted in preventing crimes from taking place from occurring. However, such an incident still occurs beyond the notion of self-defense, which can determine whether they're used in a crime.

Whether the acquisition of a firearm is for recreational or self-defense, a key component remains consistent: getting one must reflect the danger such a device can have if unregulated. This is better understood, knowing that regardless of the rationale behind owning a firearm, acquiring it must have some security and process to ensure it goes into the right hands. When legally purchasing a firearm, a base practice would be going through a registered Federal Firearm License (FFL) dealer who would run some background checks to vet the person properly within a later period to pick up said firearm. In theory, such an approach in structure would ensure that firearms purchased go through an official channel that would filter out anyone ineligible for ownership of a weapon. In general, the ability to get a firearm should reflect current laws to prevent them from being used in firearm-related crimes. However, this is far from reality when observing how different states enact their laws.

Gun laws vary per state, and understanding how they vary with others would give greater clarity on legislation's impact in reducing issues related to their usage. A few legislative examples include the ability to screen an individual to ensure they don't have a criminal history when purchasing a firearm (background checks) or having a license to carry a concealed weapon (concealed-carry laws). The Giffords Law Center, a nonprofit

organization focusing on gun safety regulations, has highlighted how gun laws have been doing within the different states for the last decade and gives a ranked grade within a scorecard measurement. At the same time, a key component observed within their findings is that they indicate a negative relationship between the strength of gun laws and gun deaths (2022). Similar results are reported by Santaella-Tenorio et al. (2016), who found that states with relaxed firearm restrictions or even repealing existing permit laws would experience increased rates of firearm homicides. These points reinforce the notion that gun laws appear to be related to levels of gun violence that later impact the general populace.

While the means to purchase firearms may vary from state to state, an exact predicament is faced: if the legal means exist to get a firearm, how does it still find its way into gun violence crime? Most firearms in circulation are purchased from federally licensed FFL dealers, yet 30 to 40 percent of sales are through secondary markets, while over 500,000 firearms are reported stolen yearly (Cook & Ludwig, 2009). Firearms within the illegal gun market are reported to be transported through stateliness higher in states without background checks by as much as 30% compared to states with comprehensive background checks on all gun sales (Webster et al., 2009). While current research on carry-conceal laws is limited due to difficulties in data collection and rough interpretation, no true causal relationship between right-to-carry law's impact on crime could be positively asserted (Wellford, 2011). Alongside the high level of private gun ownership and their use in crime, the concern about the homicide rate is better reflected in the scope of the past 40 years.

When observing homicide through the lens of time, a question arises in what trends exist related to how crime is related to the general population. A greater focus would be seen in the 1980s; a changing generational lead with the baby boomers of the 1950s dwindling in

age alongside the start of the war on drugs via crack cocaine becoming a concern. This period coincided with significant growth of drug-related offenses and prison population within a certain age demographic populace. Between 1983 and 1993, the rise of homicides within this period was observed in victimization rates among black male youth being higher than whites, with Hispanics only trailing behind second compared to adults (Blumstein, 2017). Blumstein noted such age disparity in this age period was the start of the War on Drugs, where contributor to the usage of firearms, specifically handguns, being used by youth was grounded in trying to survive a volatile drug market where danger can come from other youths or robber where protection was a necessity. Within this period, the structure of those committing crimes shifted from their older predecessors being sent to prison for drug-related offenses and juveniles, specifically young black males, to replace them to maintain a volatile drug market where firearm usage (p.52).

Homicide in America

The impact homicides have taken within America is shown by what firearms have been used in perpetrating such crimes and how such violence is even classified. While many government organizations like the FBI or CDC would have a set definition of how to classify homicide, this study's approach to addressing this will be grounded within the criteria set by the FBI's definition of violent crime and classification system. Within said definition would be four set offenses robbery, rape, murder, and aggregated assault, as the latter two are vital in understanding FS more clearly. Murder, better understood as homicide, is the intention of killing another person, excluding accidental death, suicide, or attempted murder from this established criteria. Aggregated assault is an attack by one or more persons on another to inflict serious bodily injury (Rosenfeld, 2009). The core concept of both offenses is the

element of violent behavior being present, yet the inclusion of a firearm into the equation would change how to engage in such crime. In robberies, using a firearm was the most significant contributing factor to whether it becomes a fatal or non-fatal robbery over other weapons like knives or blunt instruments (Braga et al., 2021). Elements of weapon choice that impact the survivability of certain crimes are noted in their ability to transition towards becoming a homicide due to the usage of a firearm.

When discussing criminal homicide within the United States, two essential data resources are used: the FBI's Uniform Crime Report (UCR) and the Bureau of Justice National Crime Victimization Survey (NCVS). The UCR is a database based on offenses reported and recorded by police departments, while the NCVS is a database comprised of criminal victimization surveys collected from the general population. As a result, both data sources contribute to understanding what patterns and variables exist in previous years of data. Homicide rates from 1960 through 2005 fluctuated, with the 1980s being a high point until trending towards mid-1960s levels by 2000 (Wellford, 2011). Within 2007 alone, 15,707 homicides were reported, with 68% having firearms used, reflecting this trend for this type of crime for the last 30 years. Firearm usage in homicide has grown beyond just forty-plus years of data collected in a better understanding of what makes this crime more violent than other situations.

When discussing homicides with other crimes, focusing on how a weapon like a firearm could have more significant implications than a knife is crucial in how a scene might play out. Weapon instrumentality is the notion of what level the introduction of a firearm contributes to escalating a violent situation to other weapons. Two critical elements noted in gun-related homicides would be the lethality of a gun and the variation of multiple gunshot

wounds that influence death rates. A 1969 report on firearm ownership and rates of gun violence detailed that firearms attacks reported to the police were five times higher in resulting in a dead victim than with a knife when controlling for the number of wounds and said locations (Zimring, 2020). The number and location of gunshot wounds are critical in a victim's mortality rate, as multiple gunshot wounds would accelerate death before reaching the hospital by 75% (Braga et al., 2021). The killing potential is only quantified when a high-capacity magazine can contribute more rapid-fire toward higher fatal outcomes possibilities.

While the scope of crime is vast and discussed heavily by body count, a lesser focus is put on the financial impacts gun crimes have in this country. The frequency of homicide isn't just taking a toll on human lives but is being felt by taxpayers via the economic costs of addressing this crime. The estimated economic cost of injuries in the U.S. in 2019 was $4.2 trillion, with a massive concentration of such cost being seen among the age group of 25 through 64 (CDC, 2020). While these figures account for both fatal and non-fatal injuries that encompass beyond firearm-related injuries and motives, importance is noted that isolating the medical cost of homicide tells a different story. Utilizing the CDC's Web-based Injury Statistics Query and Report System (WISQARS), the medical cost of a firearm-related homicide was observed to be $175.02 million, with an average cost of $9,030 per taxpayer in 2020 alone. The cost of injury death alone is massive but paired with the burden many different communities would experience from this, such cost would be harder to calculate.

Non-Fatal Shootings

Compared to homicides and FS, NFS has seen far less scientific exploration. Defining the critical principle of NFS provides new challenges due to misunderstanding what is and is not considered an NFS. While a fatal shooting is defined and classified by the UCR and

NIBRS in detail, there is no definitive definition of NFS beyond being a byproduct of FS. With no national definition for NFS exists, two key components present in many cases would be that a firearm injured someone and that a gunshot wound injury is present. A clear definition of NFS is crucial when understanding how to appropriately use resources in dealing with such crimes. NFS, in the lens of the UCR, is subjected to a hierarchical rule where when multiple crimes are reported, the most serious is recorded (Hipple, 2022). The focus on more details being brought forward rather than isolating a singular crime would give more effort to a comprehensive look at NFS data. The National Incident-Based Reporting System (NIBRS) database does report multiple offenses per incident, giving way to collecting all data properly. In discussing this type of crime, it's essential to establish what is considered NFS overall.

Comprehending the available resources and tactics when looking at the clearance rates gap between homicide and NFS is a crucial start. With FS being well established in the sense of a dedicated database to work with and a definition of what is considered a homicide, NFS has a distance to go compared to where it is now. For instance, between 2010-2014, nearly 70% of the NFS observed in Boston involved some level of gang and or drug-related circumstances behind them (Barao et al., 2021). This rate is explored when Barao et al., (2021) compared the resources provided when addressing such problems. In the scope of investigatory resources, homicide cases would receive more attention regarding the number of detectives working on this and the number of post-scene follow-up tactics compared to gang/drug NFS. Apart from personnel, resources, and tactics, the key difference between FS and NFS lies in the victim's role in achieving an arrest.

When discussing NFS's impact on cases being cleared or generating leading towards an arrest, victim cooperation is pivotal compared to FS cases. Compared to FS having a deceased victim and minimal leads, NFS cases would provide a living yet wounded victim and the potential for more witnesses to be present at the scene due to the nature of non-fatal injuries being present. Discussing why this might be the case would draw on how criminological theories address criminality and how victims may react to such actions. A crucial theory that provides insight into the way victims interact with law enforcement and their relationship within a community is Elijah Anderson's Code of the Streets. The core principle is grounded on informal rules and norms that dictate interpersonal relations with the community and overall authority that impacts how they may engage with said authority (Jacoby et al., 2012). In this theoretical framework, the community is characterized by serious socioeconomic problems, a lack of services, and minimal or negative trust in law enforcement's authority. It primarily focuses on inner-city youth since they learn specific roles and appropriate behaviors from others in their community. This, in turn, has consequences of retaliatory action becoming normalized when seeking retribution for being wronged in resolving interpersonal problems. Such conditions further impact more than just victims where the community itself is left to either adopt the current norm or face some level of repercussion. Strained communal interaction with law enforcement is observed in locations and neighborhoods with high gun-related violence and little police presence; they would be less likely to cooperate with police investigations when distrust is present (Phillip et al., 2022). Surviving victims of an NFS not only deal with the physical repercussions of this crime but there is a chance of normalcy if they deviate from the community, which in turn may cause them to become an FS victim.

Correlates of Shooting Victimization

While FS and NFS are firearm-related crimes that impact the general population, understanding the cost of crime on individuals should be observed here. Criminological research on victim characteristics is a point where much focus could be directed on seeing what gun violence looks like for certain groups within the population. This would be seen in how investigations would be handled and even what directions would be taken to curb such violence, whether through institutional channels or individualized manners. Many correlates exist within FS and NFS cases that are crucial in understanding victimization rates amongst different demographics. What factors could be interpreted in the scope that different age ranges may experience being victimized? Does such victimization vary between races? Would certain genders be susceptible to being at risk of violence versus others? Each variable alone may piece together some level of comprehension of who's being shot, giving a greater clarity of how firearm-based violence looks like for such victims.

When discussing what factors may contribute to surviving a firearm-related crime, much discussion would start with the importance of age in whether a person survives or die. The average age for an FS victim would be around 27, while NFS were seen at 32 with a previous criminal record increasing those odds (Hipple & Magee, 2017). This age range is best understood in that young adults are more prone to becoming involved in criminalistic activities by the influences of peers or socio-economic conditions normalizing such behavior. Such direction would be noted in motives like drug, retaliation/revenge, and even robbery being key shooting motives influencing the severity of gunshot wounds between FS and NFS victims. The homicide rate for individuals above the age of 12 is 1 in 14,706 chances of being a victim, while this rate rises through adolescence while stagnating within the early 20s

(Rosenfeld, 2009). Age is only a tiny fraction of the characteristics behind the correlates that frequently contribute to being victimized by firearms.

As discussing race within America always draws focus on a plethora of topics, especially in the scope of criminal justice, it's crucial to look at how such victims are being reflected in certain crimes. Much of the established research literature on crime rates convey race alongside them, but further details are extrapolated when seeing how variations exist between them. Being a non-white victim, specifically African Americans, is heavily represented in much of the research literature as rates of aggregated assault are 58 percent greater than among whites (Rosenfeld, 2009). Race is noted in influencing the likelihood of cooperating with the police even when heavily injured lowered for non-white victims by 57% compared to white victims by 79% (Hipple et al., 2019). Such circumstances could be seen in reduced engagement with police agencies in facilitating an arrest when the community questions such a history of authority.

As factors like age and race are significant when observing rates of FS and NFS, more details would be seen in how sex is reported here. While it's noted that being young and black is highly reflective of what rates are seen in both FS and NFS data, the importance of how sex is being reported would help shape what is understood of who is being victimized. Rates of firearm-based homicides and aggregated assaults are higher among males, who are four times more likely to become a victim of homicide (Rosenfeld, 2009). Though it should be noted that women are still likely to be victims of aggregated assault and homicide just like men, women would experience a different type of victimization than men: intimate partner violence. When looking at the U.S. trends in FS and NFS intimate partner violence in the past 30 years, women are more likely to be victims of serious intimate partner violence than

men. A variation in the type of crime aside, it is noted that males highly represent a large proportion of both NFS and FS data compared to women overall.

Kansas City and Gun Violence

Exploring FS and NFS on a larger scale within this country via what is known about each crime and, in turn, details related to each one is essential, but observing the individual scope of a singular city adds more layers to comprehending this topic. While many regions would address FS and NFS with their means and methods, observing a singular city would provide a scope of this problem that reflects that area. As many cities exist with an abundance of concern with gun violence, a metropolitan city like Kansas City, Missouri would be a prime candidate to look at. To better illustrate the role gun violence has within this city is to explore how other cities are fair in such comparisons when consulting data from the UCR. The FBI releases yearly a report of crime compiled from UCR that, in turn, has data on the top 10 dangerous cities regarding violence and property crime. Within the top 10 cities, Kansas City placed 8th in the nation regarding high violent crime rates in 2020, while St. Louis ranked 3rd (Willeke, 2021). Placing within the top 10 cities alone and having two cities within a single state is alarming when discussing how many firearm homicides are present in local communities and neighborhoods.

Crime placement within the country aside, the current firearm regulation within Missouri is essential to observe as such laws would clarify how frequently firearms are commercially available. No current legislation exists on gun dealers needing a state license to sell firearms, nor any laws regulating gun shows that purchases would provide ease of access to weapons with minimal downtime or history being present (Giffords, 2022). Regarding laws on having a record of firearm sales within Missouri, such laws are non-existent,

alongside background checks from private sales or even restrictions on bulk purchases of firearms. These relaxed laws only further any illegal firearms appearing within black markets that would be used to commit future firearm-related homicides in Kansas City.

The frequency of firearm-based crime alone is high and expensive, with Missouri residents enduring the most of these costs. Everytown, a gun prevention nonprofit organization that covers throughout America, has resources that provide evidence-based solutions to address gun violence but has also looked at the financial cost that firearm violence has placed on individuals. To treat just a singular FS victim in Missouri, an estimated $7 million is invested in medical and police services, with around $652k being a burden to taxpayers (Everytown, 2022). A singular NFS victim, on the other hand, would net an estimated $284k in medical and police services, with taxpayers covering around $40k of the cost (Everytown, 2022). Such excessive cost on the surface is heavy but compiles additional elements beyond immediate services like days of work lost or recuperating from this trauma, and the impacts of firearm-related crimes are even worse. Kansas City citizens would bear the cost of surviving being victimized that taxpayer's money could be re-invested in other programs instead of ensuring medical care or burying a loved one.

This chapter focused on what we know about guns in America and what we understand about FS and NFS. Alongside what correlates exist between both type of shootings, how it has impacted Kansas City was explored. While the current research into NFS is still in its infancy, its importance is still valuable for understanding FS. The next chapter will discuss the data history and location and the methodology used to analyze this data.

CHAPTER 3

METHODOLOGY

This chapter focuses on the quantitative and descriptive analysis of understanding more about fatal and non-fatal shootings within Kansas City, Missouri (KCMO), from 2015 to 2020. The following sections are divided into data location, collection, and analysis. A setup such as this is crucial to understanding what this study is about, how it was devised, and how it obtained a greater understanding of the topic.

The location of this study would be centered on KCMO exclusively. Beyond the fact that two Kansas City exist parallel to one another across two different states, the focus of this study would hone down precisely to the Missouri side itself. Within KCMO, two significant counties, Jackson and Clay County, are included in this study so all outside counties are not included. This study's geographic landscape is confined to a metropolitan area, with the Missouri River dividing a northern portion that is of minor interest. The focus on regional data would be supplemented by demographic and socioeconomic information from census data.

Utilizing census data and data from the Mid-West Regional Council (MARC), a better image of what makes up the Kansas City populace can be observed here. The resources used here comes from the American Community Survey (ACS). This ongoing survey tool generates information about a region that determines how funds are distributed in a given area. In contrast to the census, which is conducted every ten years, the ACS provides a current estimate of information and complements many aspects of the census. Table 1 describes Kansas City, Missouri's essential demographic and socioeconomic characteristics via the 2021 ACS.

Table 1
Kansas City Demographic and Socioeconomic Data

Population		
	508,415	
Race		
White	287,015	56.5%
Black	124,448	24.5%
Hispanic	56,483	11.1%
Asian	13,118	2.6%
Other	27,311	5.3%
Age		
0-9	62,638	12.3%
10-19	61,047	12%
20-29	82,821	16.3%
30-39	86,015	16.9%
40-49	57,756	11.4%
50-59	56,615	11.1%
60-69	54,635	10.8%
70-79	31,378	6.2%
80+	15,510	3.1%
Sex		
Female	241,879	47.6%
Male	266,536	52.4%
Income		
Under $50K	87,935	40.2%
$50K - $100K	70,994	32.4%
$100K - $200K	47,301	21.6%
Over $200K	12,790	5.8%
Per Capita	$36,456	
Median Household	$63,396	
Education		
No Degree	26,627	7.6%
High School	86,445	24.7%
Some College	101,788	29.1%
Bachelor's	86,239	24.6%
Post-Grad	49,206	14.1%
Household		
Family Households	372,591	74.6%
Married Couples	260,885	52.2%
Male Householder	23,810	4.8%
Female Householder	87,896	17.6%
Non-Family Households	127,047	25.4%

Starting with demographic characteristics, the population is 508,415, encompassing four counties: Jackson, Clay, Platte, and Cass Counties. Regarding racial composition, white are heavily represented 2/3rd of the region, with Blacks and Hispanics trailing behind. An average age range of 30-39 and 20-29 is reported, with age groups below and above these being reported as well. A higher ratio of females is seen with a percentage of 51 over males within KCMO. The sheer amount of information on what a citizen looks like is precious, but further understanding what current factors impact their communities is crucial to comprehend.

The socioeconomic characteristics of KCMO are fascinating, and many elements would be helpful knowledge in seeing how people engage with this city. Drawing from the ACS data, higher percentages of the household fell below, making under $50k, with the average person making $36,456 per capita while the median household income was $63,396. Education attainment fell between a completed high school level education and some moderate complication of a bachelor's degree within the general populace. When examining the racial demographic of how educational attainment above high school competition/G.E.D reflects KCMO, a majority were white, comprising around 59.7%, with black trailing at 26.5% and Hispanic at 10.7%. It is observed that 52% of the population within KCMO are married couples, 25.4% live in non-family structures, and 17.6% live in female-led households. The vast amount of information on those that reside in KCMO is crucial in understanding that if a resident becomes a victim of either an FS or NFS, what can be extrapolated from them that may shape our understanding of this onto others?

Data Collection

The Kansas City Police Department was the primary source of data collection on FS and NFS information within this study. FS and NFS data were collected and cataloged using Microsoft Excel, then compiled within different years, compounding from each specific file. These reports were conducted by KCPD officers that had arrived to collect essential information while assessing the crime scene. KCPD operates six patrol divisions within the city that stretch many different neighborhoods. As each data type was collected independently from the other, certain elements are similar yet different.

When looking at the NFS data, the period collected within the Excel spreadsheet provided started in 2015 and continued until 2021, when this data was acquired. The data layout is similar to FS, but it also records information such as whether a gun or bullet casing was recovered and any detailed notes relating to each case. The variation in collections years between FS and NFS is due to NFS being a relatively new focus by KCPD when tracking such data. Because there was an incongruity between dates based on crime type, the current analysis is limited to 2015-2020 to compare FS and NFS.

Table 2 clarifies how variables were recoded and what values were assigned within the data, specifically methods. Even though the variables recorded in the FS and NFS data were similar, some recoding would need to be done to ensure consistency in the measurements made across the two sets. The primary step in uniformity would have critical variables that might have multiple information like the date of the incident and victims' characteristics collapsed into their respective columns for future analysis. At the same time, these data were coded at a nominal level, and methods and motives needed to be simplified to filter out any data beyond the focus of this study. As all types of homicides were reported,

being able only to observe firearm-based cases was key in recoding the data. Within the table, methods involving a firearm level were shaded to differentiate non-firearm-based crimes and simplify to ensure values corresponding with each type could be later recoded when running statistical tests. After each year dataset was recoded for consistency and later merged into a singular spreadsheet to begin data analysis. The tool used to run this study's data analysis was SPSS due to ease of access from UMKC and the simplistic approach towards importing Excel data into the software. While previous recoding attempts simplified the importing process, more recoding would be made to refine the dataset further.

Table 2.

Dataset Variables Recoding within Excel

Label	Value
Method	
Asphyxiation	1
Blunt Force: Hand/Feet	2
Blunt Force: HF and Object	3
Blunt Force: Object	4
Blunt Force: Object (Knife)	5
Blunt Force: Object (Strangulation)	6
Firearm- Handgun	7
Firearm- Handgun, and Rifle	8
Firearm- Handgun (Unknown)	9
Firearm- Handgun, and Knife	10
Firearm- Shotgun	11
Firearm- Unknown	12
Knife	13
Other	14
Strangulation	15
Unknown	16
Vehicle	17
Blunt Force Trauma	18
Blunt Force Trauma: Stabbing	19
Cutting/Stabbing	20
GSW	21
GSW and Vehicle	22
Child Neglect	23
Race	
White	1
Black	2
Hispanic	3
Asian	4
Other	5
Female	
Was the victim female?	
No	0
Yes	1
Patrol Division	
Center	1
Metro	2
East	3
North	4
South	5
Shoal Creek	6

The focus years of this study are set between 2015 and 2020 across all recorded homicides and NFS. Table 3 highlights certain filters placed to condense the high caseload while having homicide involving firearm usage accounted. Such actions resulted in a final sample of 3,732 cases involving either a firearm-based homicide or NFS only. The unit of analysis for this study is shooting victims. Each victim's characteristics were coded individually when multiple victims were involved in a single incident. As a result, this yielded a data set of every possible shooting victim in KCMO over six years. The dependent variable is whether the shooting victim lived or died, specifically, 0 = NFS victim and 1 = FS victim. An NFS was defined as an individual that was either grazed or injured with a ballistic projectile from a firearm that did not result in the death of the person or group. Beyond the dependent variable being coded as such, further coding was created to run a more comprehensive descriptive analysis.

Beyond having a recoded variable that indicates a victim's status as FS or NFS will be crucial when running future analyses. Two major differences in coding independent variables were observed in categorical and dichotomous values. For the variables that had a level of categorical, ordinal value, these would be observed in years, patrol division, and age. Year was coded as 1 = 2015, 2 = 2016, 3 = 2017, 4 = 2018, 5 = 2019, and 6 = 2020. Patrol divisions was coded as 1 = Central, 2 = Metro, 3 = East, 4 = North, 5 = South, and 6 = Shoal Creek. Age was coded as 1 = 0-17, 2 = 18-25, 3 = 26-35, 4 = 36-45, and 5 = 45+ years old. Having these variables structured as such would make running analysis more simplistic within SPSS.

Beyond having certain variables recoded for ease of use and a more straightforward data interpretation layout, a dichotomous approach was noted for further analysis to see what

correlates may exist. These variables were if a victim was Black or Female, within the year 2020, if a crime occurred within the East patrol division, and if they were a Black Male. Whether a victim was Black or not was coded as 0 = no and 1 = yes alongside the premise that the victim was Female or not, following the same coding structure. If an incident occurred in 2020 alone would be structured as 0 = no and 1 = yes as well if said victim happened within the East patrol division. As being a Black victim or a Female was coded separately, the following approach was coded in if a victim was both Black and Male as 0 = no and 1= yes. Recoding these variables further would only enhance what is understood about FS and NFS within KCMO.

Table 3

Variable Recoding

Dependent Variable	Value
Fatal Shooting	
No	0
Yes	1
Independent Variables	**Value**
Victim Black	
No	0
Yes	1
Victim Female	
No	0
Yes	1
Victim Age	
0-17	1
18-25	2
26-35	3
36-45	4
45+	5
Year	
2015	1
2016	2
2017	3
2018	4
2019	5
2020	6
2020 Dummy	
No	0
Yes	1
Patrol Division (Location)	
Center	1
Metro	2
East	3
North	4
South	5
Shoal Creek	6
East Patrol Dummy	
No	0
Yes	1
Black Male Victim	
No	0
Yes	1

Conclusion

This chapter described the methodological direction of how this research was formatted by utilizing census data to examine the socioeconomic of KCMO, how data collection of FS and NFS was established, and additional steps were done to ensure the running analysis was possible. The next chapter will discuss the results of running data analysis on these data and present the findings from the various models and tables being created.

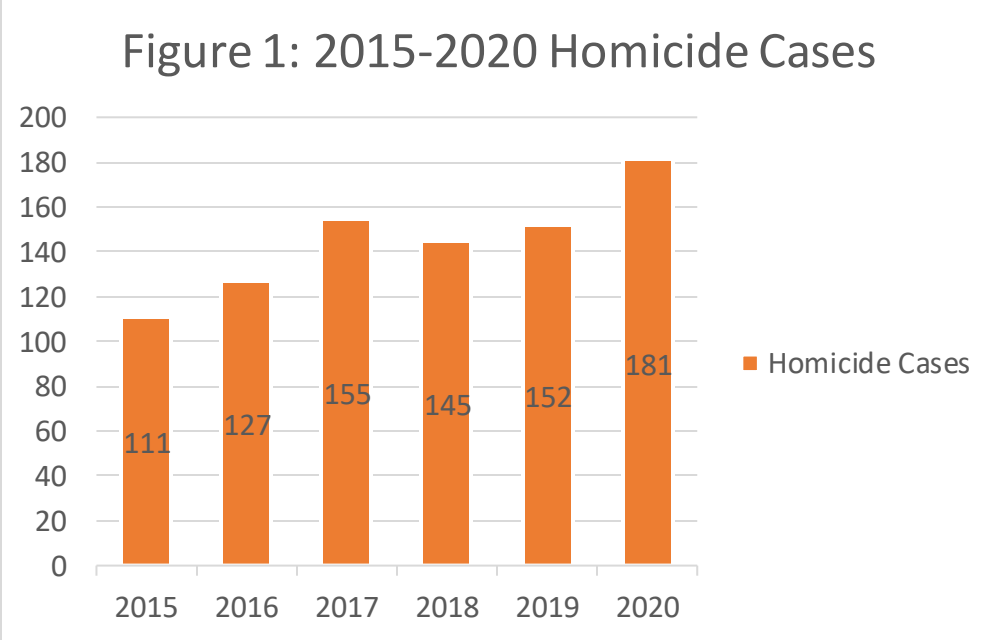
CHAPTER 4

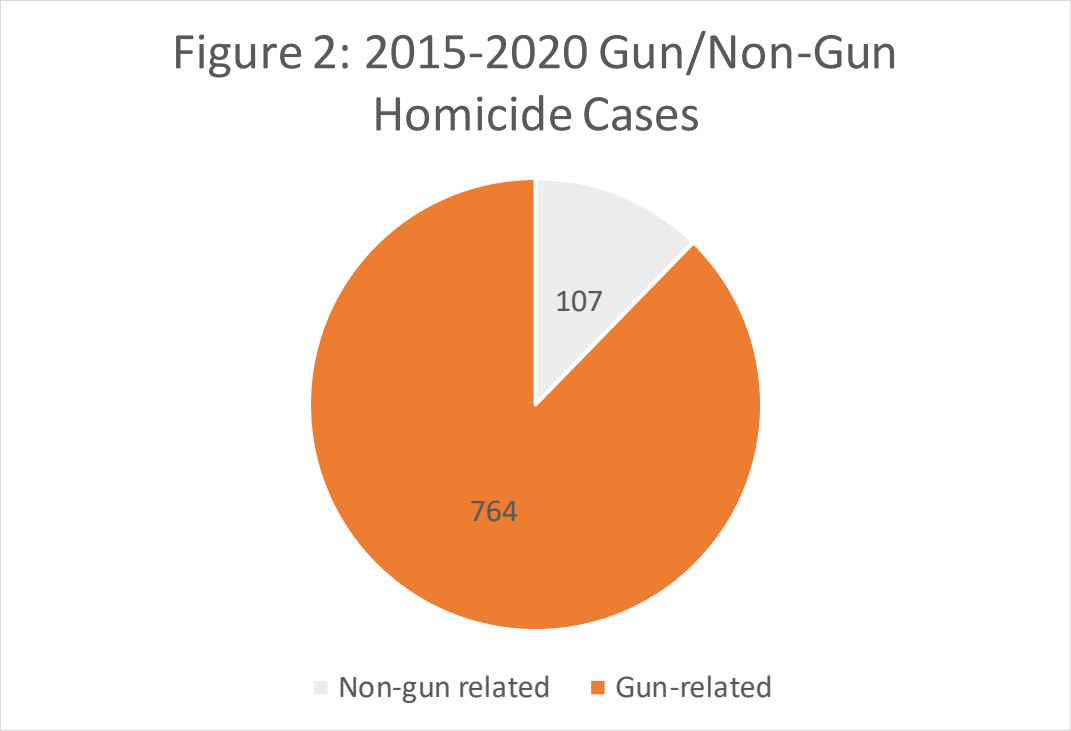
RESULTS

This chapter will present the results of this study, including a description of FS, NFS, and a combination of both data.

Fatal Shootings

This section provides a descriptive analysis of fatal shootings in Kansas City, Missouri. The current time scope of this study incorporates six years of data (2015-2020) that included information on all homicides collected within this city. In total, KCMO had 871 homicides between 2015 to 2020 (see Figure 1 below). Such information is valuable in providing a comprehensive overview of homicides over this period. However, this study seeks to isolate and compare firearm-involved incidents; therefore, homicides that did not involve a firearm will be omitted from further analysis.





Of the 871 homicides, 764 (87.7%) involved a firearm. Figure 2 details gun versus no gun homicides. Table 4 provides additional information on the methods used in firearm-related homicides, as reported by police records. As can be seen, 346 cases pertained to a handgun being used, which accounted for 48% of the overall FS homicides. It is noted that being able to indicate what methods were used in an FS is how police initially surveyed the scene. It is worth noting that these data come from early crime-scene accounts that appear within reports and not from laboratory-confirmed information, and therefore the type of firearm used should be viewed with caution. For example, 220 (28.8%) of all homicides were reported as 'firearm unknown,' and 109 (14.3%) were simply Gun Shot Wounds (GSW). Additionally, ballistic and crime lab analysis likely refined these weapon types; however, these data were unavailable and arguably did not add significant value to this study's overall hypotheses. While detectives at the scene may not confidently report the type of firearm used, they are in an excellent position to determine whether a firearm was used in the

homicide. Furthermore, some inconsistencies may result from revisions in data-collection protocols within the police department. Detectives initially recorded many firearm-related homicides in 2015 and 2016 as GSW; however, refinements in reporting protocols evolved, and detectives were permitted to record additional details (e.g., handgun, shotgun, handgun plus other methods, etc.). However, because this study is not concerned with these variations in firearm methods, these revisions to internal reporting protocols do not adversely impact this study or its analysis.

Table 4

Fatal Shooting Methods

Method	Frequency	Percent
firearm - handgun	367	48 %
firearm - handgun firearm rifle	13	1.7 %
firearm - handgun unknown	18	2.4 %
firearm - handgun & knife	1	0.1 %
firearm rifle	27	3.5 %
firearm shotgun	7	0.9 %
firearm unknown	220	28.8 %
GSW	109	14.3 %
GSW + vehicle	1	0.1 %
Missing	1	0.1%
Total	764	100%

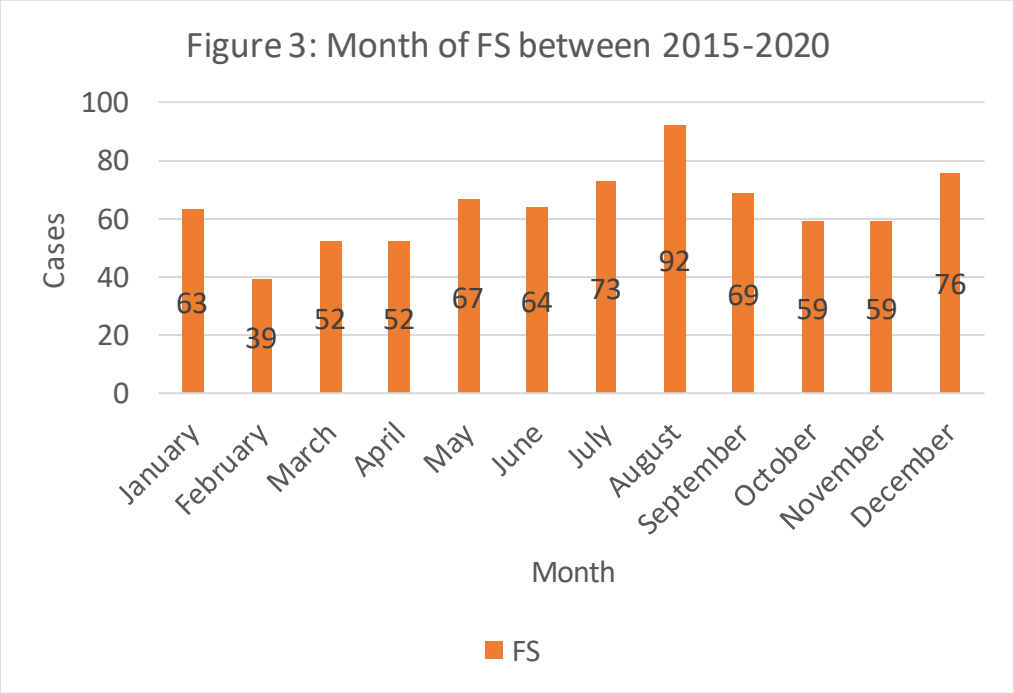
Table 5 provides information on motives detectives initially identified at crime scenes and during the early phases of the investigation. These data should also be viewed cautiously (e.g., 285 or 37.3% of motives were 'unknown') and only represent initial determinations by detectives. Refinement to motives likely occurred during the investigations, but it is informative to understand what detectives identified as initial motivations. Of those motives recorded, a large proportion involved arguments (including domestic violence, 'beef,' road rage, self-defense, etc.), domestic violence (in general), and drugs.

Table 5
FS Motive

Motive	Frequency	Percent
argument	167	21.9 %
argument DV	5	0.7 %
argument unknown	1	0.1 %
carelessness	8	1 %
defense of self/others	27	3.5 %
defense of self/others + robbery	1	0.1 %
DV	43	5.6 %
drugs	45	5.9 %
drugs + robbery	10	1.3 %
drugs, unknown	1	0.1 %
marijuana	16	2.1 %
marijuana + robbery	2	0.3 %
methamphetamine	5	0.7 %
other	25	3.3 %
retaliation	18	2.4 %
robbery	72	9.4 %
unknown	285	37.3 %
beef individuals	4	0.5 %
accidental	4	0.5 %
argument road rage	3	0.4 %
argument ; respect	2	0.3 %
argument - self-defense	2	0.3 %
beef - indivs argument	5	0.7 %
beef - indivs beefing groups	3	0.4 %
beef - indivs self-defense	2	0.3 %
DV + retaliation	1	0.1 %
drugs, argument	3	0.4 %
drugs, retaliation	1	0.1 %
drugs, self-defense	1	0.1 %
robbery self-defense	1	0.1 %
Missing	1	0.1 %
Total	764	100 %

Observing characteristics of how FS were committed is further examined when they are committed. This point is further explored when looking at the month and hours frequency in which FS occurs. Figure 3 provides a distribution of FS by month. There are several essential elements of this bar chart. This figure shows that the highest FS occurred in August (*n*=92). Additionally, there appears to be some seasonal effect on FS, starting in May and running through September. Months with the lowest number of FS include fall (October and November) and winter/early spring (February, March, and April). Fatal shootings spike around the holidays, including December and January.

Figure 4 describes FSs across hours of the day. Fatal shootings appear to be lowest in the early hours and morning (from 4:00 am through 10:00 am). At 11:00 am, the number of FS begins to rise, peaking between 8:00 pm and 12:00 am. This figure demonstrates that FSs do not occur evenly throughout the day and likely reflect the normal routine activities of victims and offenders.



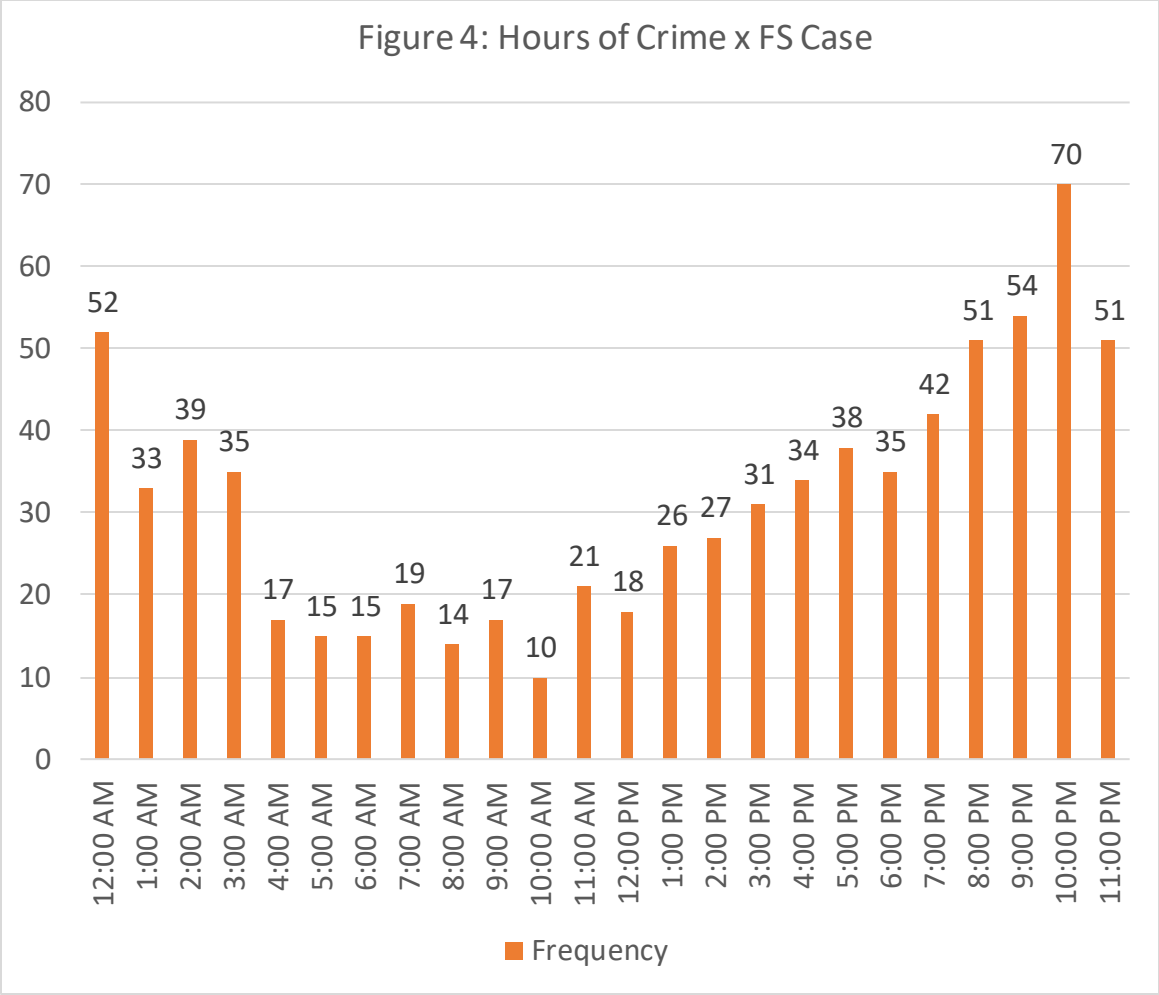


Table 6 provides information on victims' characteristics during FSs, including race, gender, age, and patrol division. Many fatal shooting victims were identified as Black (*n*=582, or 76.2%). According to the US Census Bureau (https://www.census.gov/quickfacts/kansascitycitymissouri), 26.5% of Kansas Citians were Black; therefore, it is safe to say FS victims were disproportionately Black. Victims were also disproportionately male (*n*=639, or 83.6%). Victims tended to be younger, including 261 (34.2%) between 18-25 and 221 (28.9%) between 26-35. The mean victim age was 31.4 (SD = 12.4). East Patrol had a high concentration of FS reported at 311 cases (41%) within six years. It should be noted that these data did not include suspect(s) information.

Table 6

Demographic Characteristics of Fatal Shooting Victims

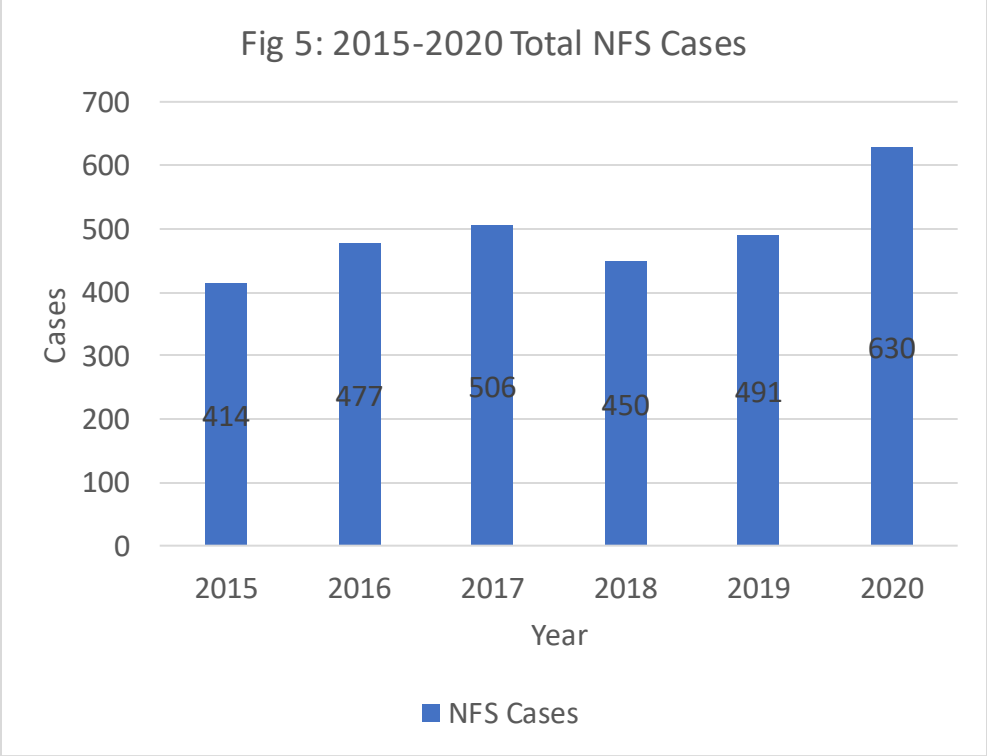
Race		FS	Percent
	White	141	18.5 %
	Black	582	76.2 %
	Hispanic	37	4.8 %
	Asian	3	0 %
	Other	1	0 %
Gender:			
	Male	639	83.6 %
	Female	125	16.4 %
Age:			
	0-17	44	5.8 %
	18-25	261	34.2 %
	26-35	221	28.9 %
	36-45	133	17.4 %
	45+	105	13.7 %
	Unknown	0	0 %
	Mean	31.4	
	SD	12.4	
Patrol Division			
	Center	119	16 %
	Metro	228	30 %
	East	311	41 %
	North	13	2 %
	South	75	10 %
	Shoal Creek	17	2 %

Non Fatal Shootings

With 2,936 NFS cases represented in this study, methods were a significant variable in FS but were not recorded here. As the very nature of NFS involves a firearm being used, it is safe to assume a level of firearm was used in these cases. The specificity level is lost compared to what data was gathered in FS, but the such direction shouldn't hinder this research. This logic would also be observed in motives not being collected that, like FS, loses some level of comprehending why this occurred. Many of these NFS had notes that were

incredibly exclusive to these cases but were not at any level of the consistency that can expunge motives here. Some cases had external descriptions of the surrounding case that may have been a few sentences to a paragraph maximum, with only a summary of what occurred with some input from the victim, if rarely. As the sparse data on method and motives are absent here compared to FS, much can still be extracted beyond this minor limitation.

Figure 5 presents the numerical count of all 2,936 cases reported from 2015 through 2020. Compared to FS 6-year period, it is observed that the reported cases are higher and with some moderate stability early on until the latter two years. The highest peak reported in years was in 2020 at 630 cases (21.46%). On the lowest end of the scale, 2015 recorded around 414 cases (14.1%). Such information gives a greater sense of the volume of people had been victimized by gun violence, yet the additional layer of FS data itself reflects more in comprehending the scale KCMO experienced over just six years.



In exploring how the amount of NFS cases impacted the years reported, more knowledge was observed in the frequency of months here. Figure 6 lays out the distribution of months that had an NFS reported. The highest number of NFS cases reported in this figure happened in August (*n*=326). The month with the lowest numerical case count was February (*n*=157). Many months with the highest counts reported have a similar structure to FS, where late spring to summer starts from May and ends through September. This direction parallels the seasons, with lower cases of fall and winter/early spring being seen here. FS cases had a large spike of cases in months with high-traffic holidays like Christmas, but NFS seems to be concentrated within the summer month, beyond key holidays being victimized is viable in these periods.

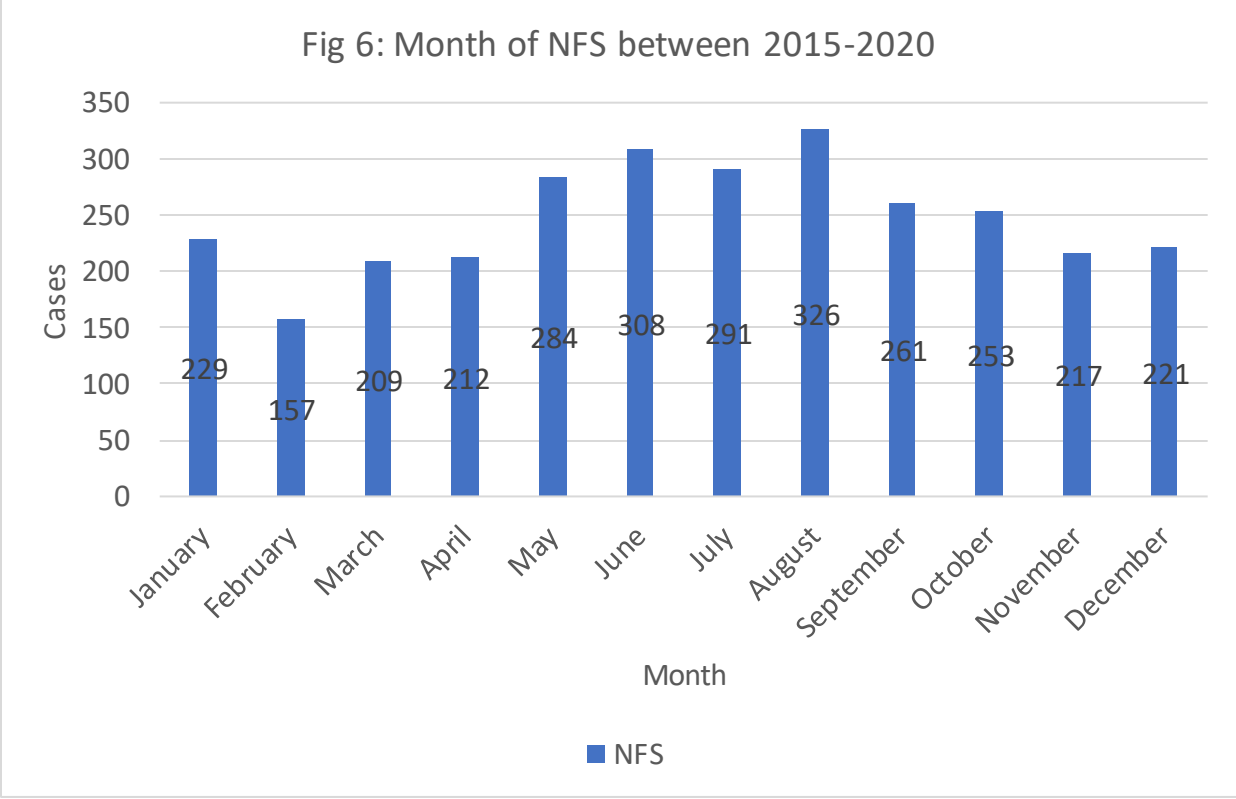


Figure 7 records the frequency of hours NFS cases were reported. Non-Fatal shootings were at their lowest from the early morning to mid-afternoon (5:00 am to 2:00 pm). At 3:00 pm, cases began to rise slowly, with a steady peak observed between 10:00 pm and 2:00 am. A total of 2 missing cases were present due to a data entry error. This figure highlights that an NFS is exceptionally high within the afternoon/night versus the morning period, impacting both victims and offenders.

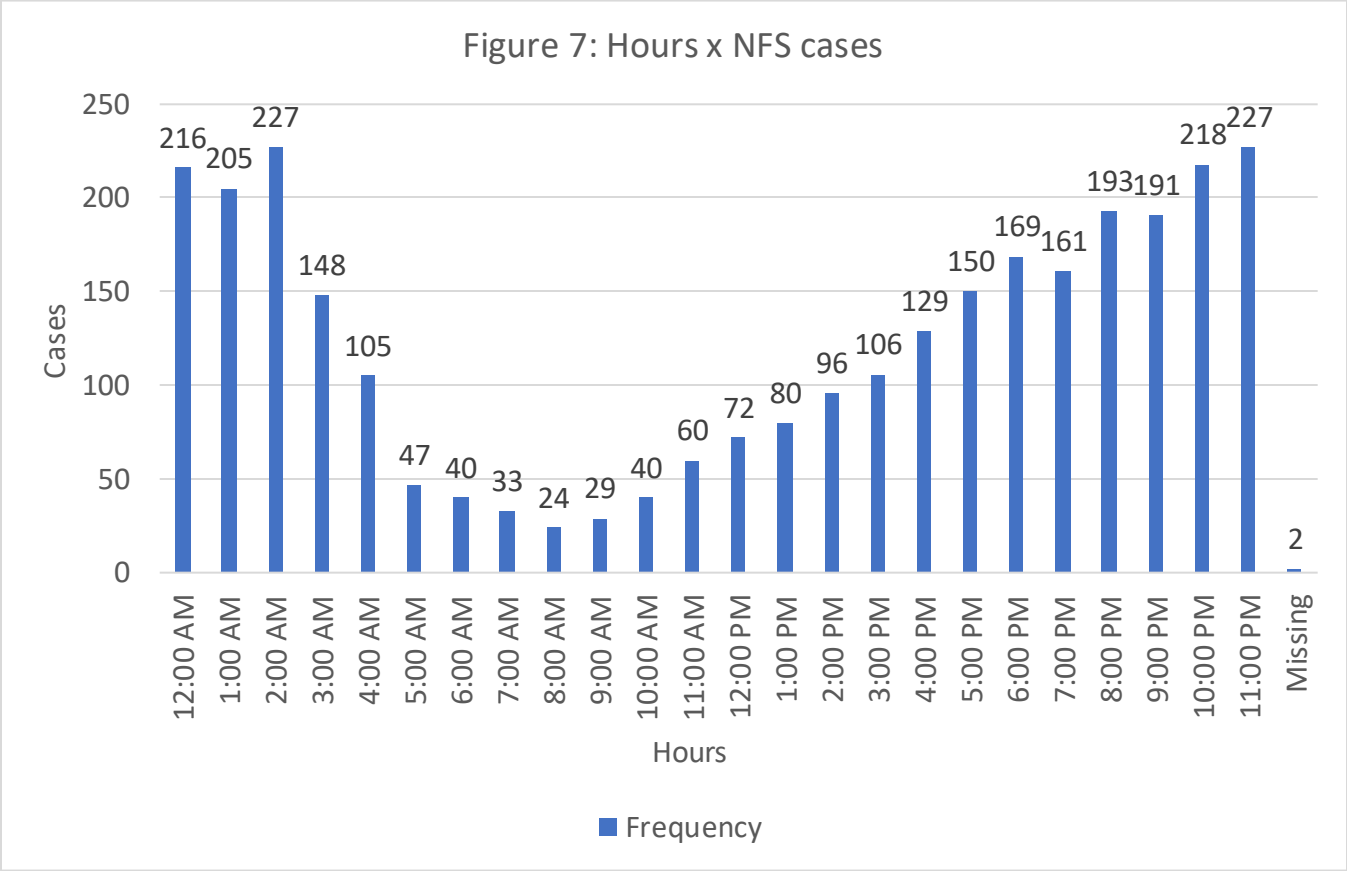


Table 7 describes the overall victim demographic of race, age, gender, and patrol division where an NFS incident occurs. While using the same information presented within US Census Bureau data, it is observed that NFS victims are disproportionately Black. Many non-fatal shootings were identified as Black (2,216 or 74.7%). Victims also happened to be

predominantly Male (2,437 or 82.1%). Victims are also recorded as being "young", including 998 (33.6%) between 18-25 and 905 (30.5%) between 26-35. The mean victim age was 29.5 (SD = 11.5). NFS is disproportionately represented in East Patrol areas, comprising 882 cases (43%). These data are victim demographic information only – information on suspects is not examined here.

Table 7

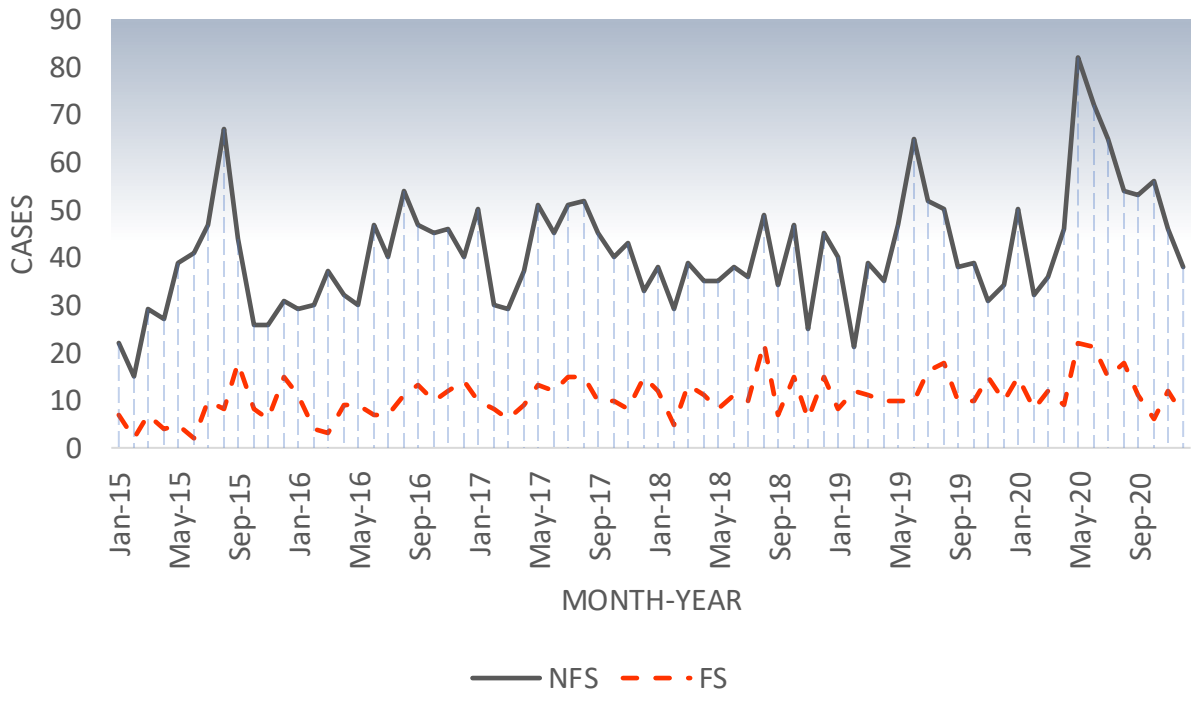
NFS Demographics

Race		NFS	Percent
	White	728	24.5 %
	Black	2216	74.7 %
	Hispanic	7	0.2 %
	Asian	7	0.2 %
	Other	10	0.3 %
Gender:			
	Male	2437	82.1 %
	Female	529	17.8 %
	Missing	2	0.1 %
Age:			
	0-17	288	9.7 %
	18-25	998	33.6 %
	26-35	905	30.5 %
	36-45	459	15.5 %
	45+	304	10.2 %
	Unknown	14	0.5 %
	Mean	29.5	
	SD	11.5	
Patrol Div.			
	Center	400	20 %
	Metro	530	26 %
	East	882	43 %
	North	25	1 %
	South	173	8 %
	Shoal Creek	46	2%

Descriptive Analysis of Shootings

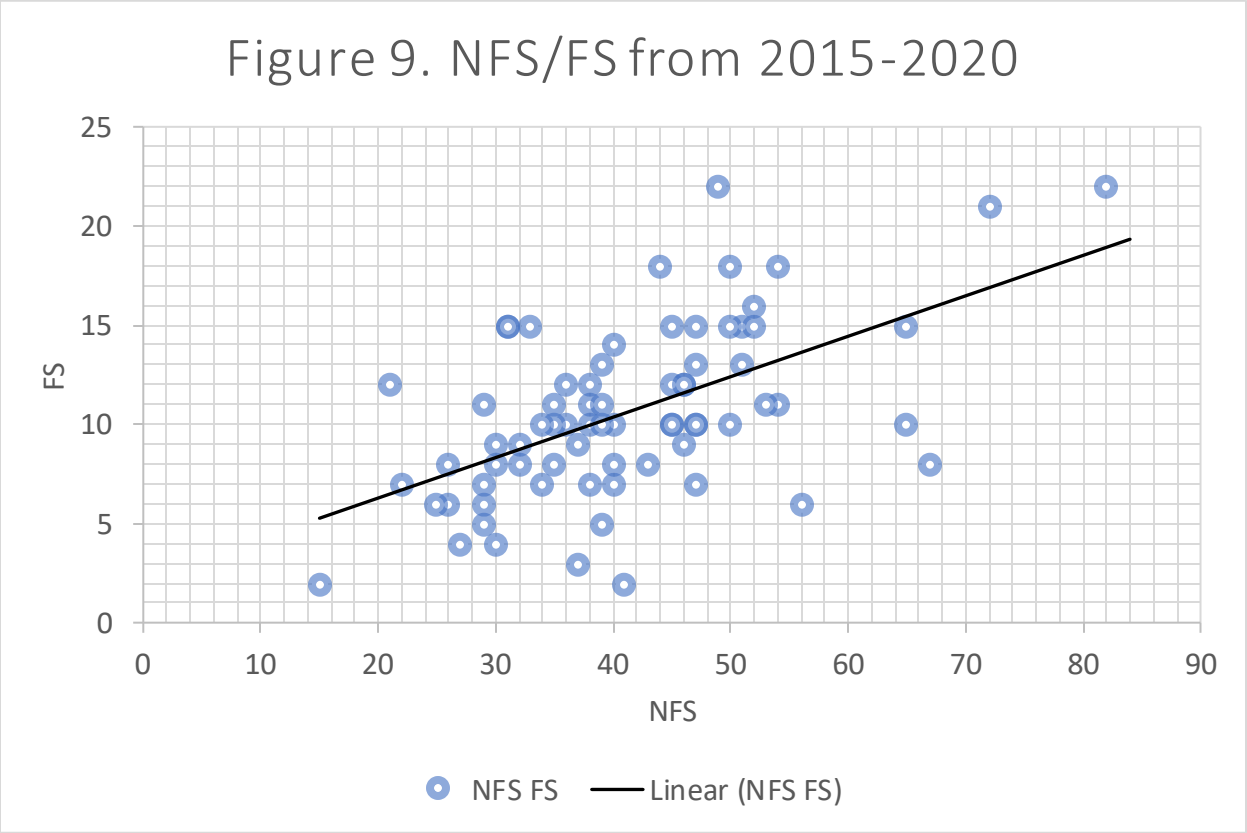
The previous section described FS and NFS separately, and moving forward; shootings will be described and analyzed as a whole. Figure 8 provides a frequency of NFS and FS within the 72-month study period. While FS cases remain static throughout the period, NFS cases are shown to increase overall significantly. Specifically, the number of NFS appears to increase dramatically during the summer of 2019, then again beginning in May 2020. Though outside the scope of the current study, it is worth noting that May 2020 coincided with George Floyd's murder and notable increases in violence in general and firearm violence in particular (Lopez & Rosenfeld, 2021).

Figure 8: Fatal and Non-fatal Shootings x Month/Year (2015 – 2020)



This point is further examined when understanding the monthly relationship between FS and NFS. Figure 9 displays a scatter plot chart to highlight such a relationship. Each point

in this chart represents a month, the X-axis is the number of NFS, and the Y-axis is the number of FS during each month. A positive relationship is noted as months where more FS occurred also reflect NFS cases as being significant (Pearson = 0.562; $p < .001$)—in other words, months with more NFS also tended to have more FS. It should be noted that these data do not reflect any relationships between separate shootings – it is impossible to determine here whether shootings are connected, and it is certainly not possible to determine whether there is a causal relationship. Nevertheless, it is worth noting that months that experienced more NFS had correspondingly more FSs.



Predicting Fatal and Non-Fatal Shootings

The following analysis examines the correlates of fatalities during shootings in Kansas City. Two different logistical regression models were conducted to examine what factors significantly correlated to becoming a fatally shot victim. Table 8 presents both models and their respective variables that were measured. Fatalities were the dependent variable (0 = NFS, 1 = FS). Independent variables were dichotomized, specifically, whether the victim was Black (0 = no, 1 = yes), Female (0 = no, 1 = yes), and Young [if a person fell in the age category of 18-25] (0 = no, 1 = yes). Furthermore, given the high number of shootings in 2020, whether the shooting occurred in 2020 was also dichotomized (0 = no, 1 = yes). As noted, a disproportionate number of shooting victims were identified as Black and Male; therefore, an interaction variable of Black Males was also estimated (0 = no, 1 = yes).

Model A presents the results from a base logistical regression model predicting fatalities during shootings. When observing age, fatalities were significantly related to age ($b = 0.10$, $p < .001$), whereas younger victims were more likely to be killed during shootings. Additionally, shooting victims in 2020 were significantly less likely to be killed than in previous years ($b = -0.50$, $p < .001$). The victim's race and sex were unrelated to whether the shooting resulted in death. The overall predictive value of this model is relatively poor, and the variables included here only explain about 2% of the estimated variance.

Being a Black Male was noted as being significant in what increases one's odds of becoming fatally shot ($b = -0.73$, $p < .01$). While the overall predictive value of this model is relatively poor ($r^2 = 0.025$), a greater focus is observed in acknowledging that an interaction effect is occurring between race and gender but to what degree requires more exploration. Model B presents a logistical regression model that includes the previous interaction term

with an additional variable of race x gender being measured. Age and year exert the same influence on fatality as the base model, with some noteworthy changes observed in other variables presented. First, it should be noted that while being Black or being a Male alone weren't statistically significant within Model A, the combination of both is reflected differently within Model B. As race (Black) and gender (Female) were measured separately in Model B, a new variable combining both was tested here via Black male.

Table 8

Logistical Regression Models

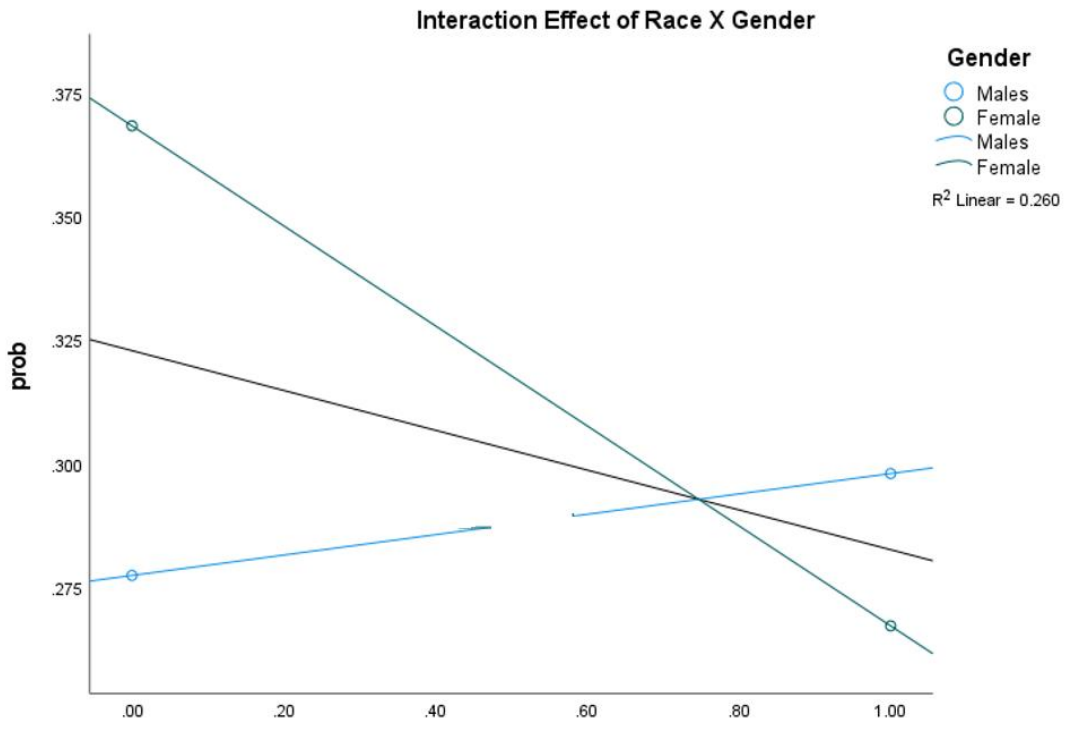
	Model A		Model B	
	ß	s.e.	ß	s.e.
Black	0.10	0.10	0.27 *	0.16
Female	-0.10	0.11	0.42 *	0.20
Age	0.12 ***	0.04	0.11 **	0.04
East Patrol Division	-0.09	0.09	-0.09	0.09
2020	-0.50 ***	0.10	-0.53 ***	0.10
Black Male			-0.73 **	0.25
Constant	-1.75 ***	0.14	-1.34 ***	0.16
R^2	0.021		0.025	

n = 2,818; *p< .05, **p< .01, ***p<.001

Logistic regression results indicate that Model A demonstrates older victims were more likely to be fatally shot, while shootings in 2020 were considered less fatal than in previous years. No level of significance was noted that gender or race existed alone in terms of interaction. When observing this relationship, a key focus would be understanding if a third moderating variable could help explain how the other variables may be related. To achieve this study utilized a Hays Process Macro moderation model extension for SPSS where aside from the dependent and independent variable remaining the same, testing whether a victim was male or not was used as the moderating variable on Model B in testing what impact gender had on overall results. Ensuring that being able to infer from this sample

size without any errors, this method utilized a bootstrapping model size of 5000. Model B highlights an interaction effect between gender and race – Black male victims were significantly more likely to be fatally injured. This point is further examined in Figure 10, which plots the relationship between an individual who was female and black and the predictability of being fatally shot. For males that are black, they are more significant to be fatally shot than those that are not Black and are Females. The level of significance that both race and gender combined verse just race or gender alone could be noted in the strong relationship observed within Black Males over Non-Black Males.

Figure 10. Interaction Model



Conclusion

This chapter discusses the descriptive analysis results of NFS and FS through different metrics and models to explore how similar or different they may be. Rates of NFS and FS have steadily increased within the last six years, with 2020 providing higher records in both categories. Black males who fall above 18 but under 35 were more likely to be victimized and survive a firearm-based crime within KCMO. Race and gender alone were not significant; however, an interaction effect was detected for black males. The additional role of age alongside race and gender provided explanatory value in Model B. In general, race alone is not observed in increasing one's victimization rate, but being a young black male was significant.

CHAPTER 5

DISCUSSION

The data within this study was quantitative and exploratory in terms of understanding FS and NFS within KCMO. The study finds that FS and NFS increased within six years (2015-2020), reflecting human losses throughout many local communities. While the results provide an applicable array of data to contribute to and draw from a more significant direction is noted in how the questions presented within this study were answered. As well as seeing these questions answered, comprehending what level the current literature on FS and NFS is observed alongside the data results assists in complementing what is known or raises new questions. Pivoting back to the questions earlier raised in this study will lay the foundation for exploring how this topic is understood. This chapter will revisit the research questions, discuss limitations and future directions, and offer some conclusions.

RQ1: How frequent are gun homicides and NFS?

When addressing the first research question presented within this study, each frequency is high when combined, adding clarity to this question. Addressing the rates of gun homicides, Figure 2 highlights that of 6 years of data, 764 firearm-based cases were reported. This translates into one firearm homicide about every two days. Compliment this information with Figure 5 data of 2,968 NFS case reports, translating to about 1.6 non-fatal daily shootings. Over the six years, there were about 3.9 NFS for every FS, consistent with what has been reported in other cities (Hipple et al., 2019). This data gives more credence in that though the rate of FS is high, the same is said for NFS in that such rates run in tandem with FS. Figure 8 highlights this relationship in the scope that for every FS case reported, around

10+ NFS are present as well. This data depicts that the rate of both FS and NFS is high; these results better support the current research literature on this.

Consulting how the current research looks into these rates is at some level in line with what the literature has examined within their fields of study. When discussing gun homicides in general, much of the existing research has this aspect covered in the sense of national homicide rates to singular city comparisons exists. For example, within the study period of 2014-2015 in Hipple et al. (2019), the national rate for homicide and violent crime per 100,000 people was 4.5 and 4.9, respectively. The two Midwestern cities observed within their study were St. Louis, Missouri (49.9 and 59.2) and Indianapolis, Indiana (15.8 and 17.1). This rate is far from the national average of 9.5 in 1993, as Blumstein (2017) noted when discussing homicide rates dropping between 1993 and 2000. However, it still highlights the variation seen within the extended period of almost 20 years. While this study does not have a concrete rate to compare with either Hipple et al. (2019) or a national average, the frequency rate of NFS and FS in KCMO is similar to how other cities fare regarding such volume. While KCMO is a city that experiences high shooting rates, the base principle that NFS data collection is occurring has better implications for how police practice is shaped regarding resources and tactics based on this data.

RQ2: Are trends in gun homicides and NFS correlated?

Answering this second research question is grounded on this current study's direction on collected data while comparing both gun homicides and NFS towards how much they are correlated. Figure 8 highlights this point further in that months with high FS reported NFS cases far exceed them by a large margin. Within the study period of Hipple (2022), they noticed an average of 4 non-fatal shootings per one fatal shooting, which aligns well with

what this study observes. While this study observes these trends at a macro level, much can be extrapolated that literature has examined much deeper that may explain how this may be.

This study builds on the pre-established data that is well observed for homicides, especially gun homicide and violent crime, which can be drawn from. This point is further examined when understanding data sources on homicides are well documented, i.e., UCR/NIBRS. Focusing on them is highly covered when discussions of "cities with high crime rates" or how much attention law enforcement addressed this type of crime. This focus should be preserved, yet this study adds volume to how often NFS occur alongside FS that is not heavily highlighted. Data on NFS victims are not as versed as current FS research, but this study can extract information that can build a foundation for examining both more effectively. Much can be drawn from this data in that when shot within KCMO, one's chance of being an NFS victim is more prominent than an FS victim when accounting for certain variables. While this study is not in a position to go in-depth (like arrest record history or wound location that Hipple & Magee (2017) does within their studies of NFS), this study gives more comprehensive general data that alone could help build more NFS data that she acknowledges as starting point when analyzing this topic.

RQ3: Are gun homicides and NFS similar or different?

Are non-fatal shootings simply unsuccessful homicides? If such a claim were made valid, then the retaliatory nature of cleaning up a failed job a second time would have shown higher rates of FS far exceeding NFS, yet this was not the case where the inverse was reported. When discussing this final question, a key focus is observed in how varying FS and NFS are discussed and even how they are presented. While elements of an FS grow into an NFS due to many variables (injury severity, ability to acquire medical service, level of law

enforcement cooperation), the results here highlight both crimes having different degrees of variation when seeing who is being victimized. This is explored by examining victims' characteristics, location, time, and context that both FS and NFS.

Victims' Characteristics Variations

The results indicate that young (age 18-25) black males were disproportionally represented by those victimized by gun violence. Much of this is supported by Hipple & Magee (2017) as that study examined both FS and NFS with results very similar to this study beyond location and measurements to account for. Hipple's result indicated a large portion of FS and NFS victims being non-White, male, with the average age being 32 and 28, respectively. The results here from both Tables 5 and 6 echo the same sentiment, with the average age for FS victims being 31.4 and NFS at 29.5, supporting what they found while reinforcing how different both crime types are. Analyzing why such age groups are disproportionately impacted by gun violence is further supported by Blumstein (2017), highlighting similarities of those committing this via an age-crime curve while examining them to past periods. It can be speculated that while gun violence in KCMO is concentrated towards younger adults, much may be drawn regarding where they reside, having some moderate effect here. This logic coincides with the fact that many of those victimized in this study were young and that such age groups could engage with these periods differently than other age groups. Those that fall within the 18-25 range would be entering early adulthood, where they are grasping aspects of balancing social responsibilities to pre-existing relationships to peer groups that may reinforce how they engage with others, positively or negatively.

Perhaps the most exciting findings can be seen from the logistical regression analyses presented in Table 8. While observing these findings on a general level could help shape a general idea of who is being victimized, much exploration is needed to comprehend what this data truly means. This point would be further examined by performing statistical analysis to see if certain variables alone would have a significant influence in being victimized, that Table 8 lays out. The results from Table 8 show a unique point in an interaction effect observed for race and sex, specifically, Black males. While Black males were overrepresented as gunshot victims in KCMO over the six years, estimates indicated that these victims were significantly more likely to be non-fatal rather than fatal victims after holding other correlates constant. This result presents more questions as it challenges any set assumptions of certain variables like race or gender alone being a vital explanation of these crimes beyond certain age groups being highly represented. Hipple & Magee (2017) findings highlighted no significant differences between race, gender, and arrest record within their chi-square analysis. However, their study's results indicated that the victims of both crimes were young, non-white males with previous arrest records. While this study did not incorporate the victim's previous history before the crime, their results are somewhat parallel to this study, with Hipple et al. (2019) analyzing Race x Cooperation with law enforcement where race had a moderating effect on levels of cooperation. It is noted that further examination on this is for future studies as a critical variable that could provide more clarity on this interaction is what role locations have on these data.

Location

Knowing who is impacted by gun violence is greatly enhanced when seeing how the location of the incident is reflected. Within this study, patrol divisions were used as a gauge

for a location highlighted in the results of East Patrol being predominantly a huge focal source of both FS and NFS cases. KCPD operates in a 6-patrol location that spans the KCMO metro area, but in this study, both FS and NFS are highly concentrated in one particular area compared to others. Specifically, East Patrol is disproportionately represented throughout the six years of analysis. This observation brings up the question of why East Patrol is so highly impacted versus other regions. As this study only was able to rely on police data, much speculation could be drawn on why this might be the case. What can be drawn here is that East Patrol highlights gun violence is not equally distributed throughout KCMO, which supports Weisburd (2015) assessment of crime concentration being prominent in certain places. Such volumes of gun violence cases bring more exploration into how this impacts individuals residing in these neighborhoods. However, this study did not have interpersonal data to explore, so this would be beyond the premise of this question.

While the scope of this study only addressed the core data presented by KCPD and inferring beyond what was collected might be more challenging, a significant point is meant to be explained: the area that comprises East Patrol has some historical relevancy when looking at how many regions became to be. González-Pérez (2021) looked at racial/ethnic segregation and inequality in KCMO, and while their work covers many socioeconomic levels (median house values, mean income, census tract data) that were not addressed in this study, they acknowledge the strong impact such practices has have. They noted that redlining, the housing practice that perpetually racially segregates on the premise of mapping where one can live, has been noted to have existed within KCMO as early as the 1930s, impacting the racial diversity of specific areas. There was an observation of high proportions of African Americans via census tract data alongside the concentration of lowest income

level alongside highest poverty level eastbound of central KCMO compared to other racial groups. While this study itself does not dive too deep into location history, Hipple & Magee (2017) noted that the minority community had had a historically tenuous relationship with law enforcement that impacted the likelihood of victim cooperation. Extrapolating how residents within East Patrol may feel about current KCPD's tactics on addressing FS and NFS compared to other patrol locations speculating if such history is just an isolated occurrence for a city like KCMO or testing this with other cities is grounds for future exploration that this study builds up.

Time

When looking at the results here, a point is made that when FS and NFS occur, there is some variation between time and month. As Figures 4 and 7 indicate regarding hours recorded in this study, many incidents reported occur later in the day. This point could be better observed in the sense that when committing such a crime, the nighttime activity would be more advantageous in the first place. The element of surprise is present when wanting to shoot someone while having the cover of night assist in masking traceability. An hour is recorded on an ordinal level within this study; observing other research on both FS and NFS has yet to explore this in-depth, which for reasons are valid. Nevertheless, the set amount of information collected provides more questions that can be explored beyond this study in what variables contribute to higher rates at night versus other periods.

As understanding what hour FS and NFS are complemented by the direct month, many of these cases were reported. Figures 3 and 6 show the high cases being heavily skewed to months commonly associated with summer to winter. Much of this would indicate most FS and NFS to happen outdoors as high foot traffic fluctuating in warmer weather

would prevent this from occurring. Many studies on gun-based homicide or even NFS do not mention any element of the month, as such nominal data is not heavily explored. However, the results here provide some additional layers of questions future researchers can gravitate towards. What elements make the month more sustainable for higher victimization rates versus others could be examined through different sub-fields or measurements beyond this study's set perimeters.

Context

As FS and NFS were observed to vary regarding critical data, much is explored when understanding the factors behind them. When looking at FS, a more significant point is made when analyzing how methods and motives are reflected within this study. Much of the current literature observes that, when accounting for unknowns, argument represents a high account of motive that share some commonality with how other studies looked at this. It should be noted that the "argument" in this study has some level of vagueness due to how it was pre-recorded data that is supported by the research literature. A motive in itself is noted with levels of "aggravated assault" being heavily represented in UCR data for FS, yet for NFS, much of what has been looked at via Hipple's' research on NFS is being built up here. Hipple & Magee (2017) examined victim characteristics and motives between FS and NFS, while Hipple et al. (2019) examined victim cooperation in NFS cases. "Argument" was heavily reported when accounting for "Unknown" in Hipple & Magee (2017), while "Interpersonal Dispute" to "Unknown" was again noted by Hipple et al. (2019). Each study was conducted within different site locations, yet these results run parallel to their work, which gives more credence to NFS being different from FS but having similar patterns present throughout different regions impacted by gun violence.

Limitations

As though this study builds on the current literature, specifically NFS, a few acknowledgments of limitations are essential to discuss that would guide future research questions. First, while the data acquired for this study was official police files, it is by nature secondary data where this information was compiled by a different entity for purposes that expands beyond this study's focus. This point is further examined in how such data, though rich in information, may raise questions about how to adequately address the topics raised in this study for future researchers. As much of the data inputted was based on KCPD officers' ability to capture what was present much is either lost or wrongly categorized. This point is evident when looking at overall races that were accounted for. While Black and White had high ratios of NFS to FS, Hispanics had an inverse of FS being predominant over NFS. It was noted that within the six years, the first four years had little to no Hispanic NFS data entries that were not rectified until post-2019. This factor was remedied by recoding race into Black and Non-Black when running a logistic regression model but being able to draw meaningful interpretations for Hispanics was lost.

Second, the lack of victims' background information reduces the chance of capturing a clear picture of victim characteristics. Key descriptive data as if a victim had a previous criminal record is leveraged when Hipple & Magee (2017) did their victim characteristics but isn't present in this study. Beyond the quantitative approach set here, additional knowledge on a given location can synergize with law enforcement data. Surveying residents within each patrol division may build on establishing what level of victim cooperation exists and gauge what level of community-law enforcement support is present that future studies can

build off. A direction of incorporating additional information, when present, will assist in crafting more research questions to enrichen NFS data going forward.

Third, it is observed that both FS and NFS cases steadily increased, with 2020 being the highest, but while this occurred, the impact of how COVID-19 was called into question. Within 2020 alone, we saw a plethora of events from the start of lockdown protocols to civil unrest within the summer from the George Floyd incident brings into question how much variation might have influenced that year alone. Research by Richard Rosenfeld has added some layers to both topics that provide some interpretations that merit future research into this period. While being a key figure in Lopez & Rosenfeld's (2021) research on COVID-19 and Homicides, they noted homicide rate declined within the early month of the pandemic but would begin to pick up within the warmer months. This is moderately supported within Figure 8, where FS and NFS dropped early in 2020 but peaked in the summer months. With the summer month being of focus, another point of future research is brought up by what impact the death of George Floyd had and the subsequent focus that came from that. This connection that such a notion could be possible has brought forward a term called the "Fergusson Effect," a principle that increased violent crimes via widespread social unrest arise over police brutality into question. The term has been examined by Rosenfeld, who analyzed homicide rates in 56 large cities in 2015 in what role it had in increased homicide rates (Rosenfeld, 2016). To what degree this is true within this study would be speculated by others looking into this, but we see high rates of FS peak around May, i.e., post-Floyd, which raises questions if such an effect is happening here. Interpreting how COVID-19 may shape 2020 and future years is further hampered by location site replication needing to be addressed.

Fourth, the implication of being able to reproduce this research may vary when incorporating different variables at hand. As a city with high rates of shootings pairing this with another city would have to mimic similar characteristics to ensure comparisons for both are viable. Many variables, such as population size and demographic variation, will need to be incongruent with how law enforcement operates in that city regarding if both have a conclusive record of NFS even present. Hipple et al. (2019) had two midwestern cities with relatively similar backgrounds to study but discovered an interaction effect between race x Cooperation versus Race x Gender here. Such interaction may provide new grounds to test if this is just an isolated occurrence or if this is detected elsewhere with a greater focus on what differences can be attributed to these effects.

Contribution

This study has examined FS and NFS results that have contributed more to establishing literature on both subjects. A significant element this study has built up would be the greater focus of FS and NFS within a singular comparison lens that makes such results possible. While this study isn't the first to work with similar data, it is the first comprehensive descriptive analysis of FS and NFS in KCMO that spans over six years. Hipple et al. (2019) would be a prime comparison in that it had a similar structure in utilizing a descriptive analysis of variables and a logistic regression that answered a different set of research questions towards building up continued NFS research. This study has built on that research with a 72-month timeframe over the 18-month Hipple incorporated with a major focus on a singular city versus the two she had. Future research into this topic can contribute towards either continued analysis of KCMO or replicate elements of Hipple et al. (2019) research with a secondary comparison city but with pre-established data to work with. Such endless

possibilities have given this study more viability in strengthening NFS research in how it can be incorporated elsewhere.

As the implication of building off this research is of concern, the base element presented in this research has more application that benefits more fields adjacent to Criminal Justice. Many variables recorded within the current study, like street addresses and demographic information, can be translated into different questions to build future research into other topics. Exploring how much street addresses vary when seeking social services like police or medical service arrival can be built from this data. What amount of a school's proximity to highly active areas of shootings can be extrapolated regarding educational attainment in a given neighborhood? Socioeconomic conditions are aspects explored in many social sciences like psychology that explore how certain conditions might influence how an individual may interact with their environment; this research can facilitate building on them. As such, compiling this work with different field perspectives can bring more variety and versatility to be applied elsewhere while ensuring current research on FS and NFS continues to strengthen.

While addressed as a limitation due to varying degrees of questions and continued research this has sparked, COVID-19 itself has brought forward new ways to approach FS and NFS. As this study had built a considerable timeframe of six years, with 2020 being the endpoint, this falls in line with when COVID-19 started in the US in March. With five years' worth of data that can be considered "pre-COVID" data and how this data is structured to be built upon, future studies can incorporate 2020 as a fulcrum of comparing what comes after it as "post-COVID" data. This approach isn't limited to a particular data location, but with this vast data present, comparing it with another site might provide a different perspective on

whether crime rates, especially FS and NFS, have increased or decreased overall. Observation of NFS cases turning into FS can be observed by non-COVID standards, but analyzing pre/post timeframe could provide additional value in a broader perspective of this type of research.

While discussing location lightly, the implication of something like redlining could provide newer directions to explore here. As the research by González-Pérez (2021) was more inline in a sociology field, much of that data alone can correspond with this data and vice versa. This is especially true when exploring how individuals within the communities being studied here feel about how gun violence is being felt and the overall viewpoint on law enforcement's approach to this problem. Hipple et al. (2019) mentioned early in their study how disadvantaged communities can further perpetuate gun violence when discussing victim cooperation. Her results contribute to this point where a concentration of communal distrust to cooperate with police efforts to clear cases was evident in the 56% cooperation rates for Non-Whites. These results are further contributed by Baroa et al. (2021), where the level of mistrust in the criminal justice system corresponded with retaliatory justice being normalized in their reluctance to assist investigators. Such mistrust is only compounded when an increased spotlight on police misconduct impacts communities' trust in law enforcement. Replicating this study could provide grounds for testing if this historical background is isolated to a place like KCMO alone or can be observed in another city with such history.

Conclusion

When discussing gun violence within America, it is simplistic to focus on the frequency of such crimes occurring on an enormous scope of where they happen to even a general notion of what should be done. However, a key focus passed over when looking at

this issue are the individual victims themselves. Parental figures, children, and loved ones lost or hugely impacted by gun violence may not be genuinely told by this data alone. This being said, a greater focus on exploring how much FS and NFS have become more significant concerns, not in just one neighborhood but throughout different parts of a city, is crucial. Much of this problem has been felt in a city like KCMO, where this study was conducted, where different neighborhoods have felt this pressing issue more than others. This study utilized a quantitative and descriptive approach that acknowledged the high volume of FS and NFS cases within six years with a general layout of what observation could be extracted. The results presented here clarify what questions were asked in this study. Most cases here were heavily NFS oriented compared to FS, where each differs.

This study contributed to growing research into gun-based homicide with a particular interest in building up NFS research further. Continued research into NFS has been possible through the foundational research by Natalie Hipple, which had been instrumental in this study and referenced in other literature that addresses this, but there is still a long way towards ensuring comprehensive and reliable data can be collected. Having a set definition, database, and comprehensive data collection methods for NFS (Hipple & Magee, 2017; Hipple, 2021) alongside more significant investigatory/financial resources towards NFS (Barao et al., 2021) are key objectives that this research wishes to assist in making such direction possible. This body of research builds on these goals while ensuring future research could use the foundation presented and improve policy and practices.

The versatility of analyzing this data is crucial in attempting to reduce the tragedy of human loss, so the effort for such action would be in what the general data represent overall. The data presented here represent not only the loss of an individual but much more of what

they represented to a community. The loss of a child, a parental figure, or even a loved one to gun violence are just a few examples of why this research is vital for not a future victim but towards reducing such circumstances overall. Whether by incorporating more rigid firearm prevention policies or more resources towards law enforcement practices, the value from current research is critical in being applied to minimize gun violence. The challenges ahead in how this may happen are vast, but the reassurance that the opportunities research like this can strengthen NFS research alongside providing some level of future research direction is valued in growing more understanding of gun violence in America.

REFERENCES

Barao, L., Braga, A.A., Turchan, B. et al. (2021). Clearing gang and drug-involved non-fatal shootings. *Policing: An International Journal*, *44*(4),: 577-590.

Braga, A.A. et al. (2021). Firearm Instrumentality: Do guns make violent situations more lethal? *Annual Review of Criminology*, *4*(1): 147-164.

Blumstein, A. (2017). Some trends in homicide and its age-crime curves. In *The handbook of homicide* (eds F. Brookman, E.R. Maguire, and M. Maguire). https://doi.org/10.1002/9781118924501.ch3

Centers for Disease Control and Prevention. (2020). *WISQARS Cost of Injury*. U.S. Department of Health and Human Services. https://wisqars.cdc.gov/cost/?y=2020&o=MORT&i=3&m=20890&g=00&s=1&s=2&s=3&u=TOTAL&u=AVG&t=COMBO&t=MED&t=VPSL&a=5Yr&g1=0&g2=199&a1=0&a2=199&r1=MECH&r2=INTENT&c1=NONE&c2=NONE

Cook, P.J., & Ludwig, J. (2009). Firearm violence. In *Oxford handbook of crime and criminal justice* (pp. 71-101). Oxford University Press.

Everytown Research Center (2022). Accessed on September 13, 2022, from https://everytownresearch.org/report/economic-cost-calculator/

Gifford Law Center (2022). *Gun laws*. Accessed on August 10, 2022, from https://giffords.org/lawcenter/gun-laws/

González-Pérez, J. M. (2021). Racial/ethnic segregation and urban inequality in Kansas City, Missouri: A divided city. *City & Community, 20*(4), 346–370. https://doi.org/10.1177/1535684121990799

Jacoby, J. E., Severance, T. A., & Bruce, A. S. (2012). The code of the streets. In *Classics of criminology* (pp. 130–140). Waveland Press.

Hipple, N.K., & Magee, L.A. (2017). The difference between living and dying: Victim characteristics and motives among non-fatal shootings and gun homicides. *Violence and Victims*, *32*(6): 977–997.

Hipple, N.K Thompson, K.J., Huebner, B.M., & Magee, L.A. (2019). Understanding victim cooperation in cases of non-fatal gun assaults. *Criminal Justice and Behavior*, *46*(12): 1793-1811.

Hipple, N.K. (2022). Towards a national definition and database for non-fatal shooting incidents. *Journal of Urban Health*. *99*(3): 361–372.

Lopez, E., & Rosenfeld, R. (2021). Crime, quarantine, and the US Coronavirus Pandemic. *Criminology & Public Policy*, *20*(1), 401–422. https://doi.org/10.1111/1745-9133.12557

Pew Research Center. (2017). *America's complex relationship with guns*. Accessed August 10, 2022, from http://www.pewsocialtrends.org/2017/06/22/americas-complex-relationship-with-guns/

Phillips, S. W., Drake, G. M., & Altheimer, I. (2022). The effectiveness of standardized investigative tactics in clearing non-fatal shooting investigations. *International Journal of Police Science & Management*, *24*(3), p. 239–249. https://doi.org/10.1177/14613557221074986

Rosenfeld, R. (2009). Homicide and serious assaults. In Tonry M. (Ed.), *Oxford handbook on crime and public policy.* (pp. 25-50). Oxford University Press.

Rosenfeld, R. (2016). *Documenting and explaining the 2015 homicide rise: Research directions.* U.S. Department of Justice, National Institute of Justice. https://www.ojp.gov/pdffiles1/nij/249895.pdf.

Santaella-Tenorio J, Cerdá M, Villaveces A, & Galea S. (2016). What do we know about the association between firearm legislation and firearm-related injuries? *Epidemiologic Reviews, 38*(1):140-157.

Webster, D.W., Vernick, J.S. & Bulzacchelli, M.T. (2009). Effects of state-level firearm seller accountability policies on firearm trafficking. *Journal of Urban Health, 86*, 525–537. https://doi.org/10.1007/s11524-009-9351-x

Wellford, C. F. (2011). Guns and crime. In Tonry M. (Ed.), *Oxford handbook on crime and public policy,* (pp. 420-443). Oxford University Press.

Weisburb, D. (2015). The law of crime concentration and the criminology of place. *Criminology: An Interdisciplinary Journal, 53*(2), 133–157. https://doi.org/10.1111/1745-9125.12070

Willeke, B. (2021). F*BI Data: Kansas City ranks in top 10 of highest violent crime rates in U.S.* Fox 4.

Zimring, F. E. (2020). Firearms and violence in American life—50 years later. *Criminology & Public Policy*, *19*(4), 1359– 1369.

VITA

Alejandro Cervantes was born in Reseda, California on March 3rd, 1997, and moved to Missouri in 2007. He graduated from Park Hill high school in 2015. After high school he earned an associates in Art from Metropolitan Community College in 2018 and a bachelor's degree in Criminal Justice and Criminology from UMKC in 2020. Following the approval of this thesis, Alejandro will earn a master's in Criminal Justice and Criminology, also from UMKC. Beyond academic commitment, Alejandro enjoys exploring new cooking recipes, books on subjects that sound intriguing, and playing video games to relax over. Alejandro works for the Hy-Vee supermarket within the Wine and Spirit department. Working at this place since 2015, it has assisted in paying for tuition but establishing work ethics alongside leadership skills. Alejandro's career goal would to either work for the ATF or FBI doing data analysis with a key focus on furthering research on non-fatal shooting data.