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WRATH AND RELATIONSHIPS: HOMICIDE WEAPON CHOICE AND VICTIM
OFFENDER RELATIONSHIPS

by

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B.S. May 2019, Old Dominion University

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ABSTRACT

WRATH AND RELATIONSHIPS: HOMICIDE WEAPON CHOICE AND VICTIM OFFENDER RELATIONSHIPS

Joseph Gonnella
Old Dominion University, 2021
Director: Dr. Victoria Time

The purpose of this study is to examine the influence that victim-offender relationships and the event circumstances have on homicide weapon choice. From Cornish and Clarke's Rational Choice theoretical perspective, offenders go through decision-making processes to determine which weapon will be the most effective to meet their goal, based on the circumstances of the event. This study examined the use of three weapon types: firearms, knife/blunt objects, and personal weapons, amongst victim-offender relationships such as acquaintance, intimate, non-intimate family/friend, and strangers along with circumstances such as homicides committed as the result of a felony, and homicides committed as a result of an argument. Results show that firearms were used the most by strangers, and in felony circumstances, while knife/blunt objects and personal weapons were used the most by non-intimate family/friends and in argument circumstances.

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CHAPTER I

INTRODUCTION

The spine- chilling sight of Michael Myers wielding his large kitchen knife in an attempt to kill his sister has spanned across twelve “Halloween” movies. Why did Michael Myers choose a knife? This is a rhetorical question that viewers of the movie asked after the incident. He could have easily achieved his goal using a more effective weapon, such as a firearm. The viewers can infer that his choice of weapon is influenced by the type of relationship that he and his potential victim had. Since the intended victim is his sister, their relationship is more meaningful to Michael, to the extent that the use of a knife was more gratifying and fulfilling than the use of a firearm or different weapon. Although this example is a fictional anecdote, the notion that a homicide offender’s choice of weapon can be influenced by the victim/ offender relationship cannot be ignored. There is a multitude of relevant studies with a focus on analyzing weapon choice among homicide offenders. There is as well, is an unlimited number of objects that can be used to commit a murder. Nonetheless, there is a paucity of research that address reasons behind weapon choice and offender relationship. This study seeks to examine reasons behind weapon choice and offender relationships as they pertain to murder and non-negligent manslaughter.

The FBI defines “murder” and “non-negligent manslaughter” as the willful killing of one human being by another (Federal Bureau of Investigation 2016). According to the FBI Uniform Crime Report Homicide Data from 2013- 2017, a total of 15,129 homicides were committed in 2017. 10,982 were committed using a firearm (72.6%), as opposed to a total of 1,591 homicides were committed using a knife (10.5%). Furthermore, 28.0% of homicide victims were killed by someone they knew other than family members (acquaintance, neighbor, friend, boyfriend, etc.),

12.3% were killed by family members, and 9.7% were killed by strangers. The relationships for the remaining 50% were undetermined. (Federal Bureau of Investigation 2017). In addition, an analysis conducted by Decker (1993) found that in St. Louis, 70% of all homicides were committed with a firearm. Interestingly, Decker (1993) also found that firearms were used most frequently amongst all relationship types. Between relatives and intimate partners, the use of a knife was nearly double that of other victim/ offender relationship categories. Decker's (1993) findings provide merit to Michael Myers narrative.

One must also consider the circumstance surrounding the murder as having an influence on weapon choice. The FBI was able to collect data regarding the circumstance of which 59.8% of the murders were committed where 39% of victims were murdered during arguments and romantic triangles. The remaining 20.8% considered felony-type murders that occurred concurrently with the commission of another felony such as rape, robbery, burglary, etc. (Federal Bureau of Investigation 2017). Fox and Allen (2013) expanded upon Decker's (1993) study and found that males use firearms when killing nonfamily members when the surrounding circumstance falls into the "felony- type" category. Additionally, males who kill female acquaintances and family members are more likely to use personal weapons (hands and feet) or blunt objects (Fox and Allen 2013). Females who kill family members and acquaintances are associated with using a knife. This finding is consistent with the notion that women may commit homicide to escape the violence of an abusive relationship, and the only means of survival is to kill their abuser (Fox and Allen 2013).

PURPOSE OF THE STUDY

The purpose of this study is to examine the influence that victim-offender relationships and the event circumstances have on homicide weapon choice.

SIGNIFICANCE OF THE STUDY

With a better understanding of what drives offenders to choose a particular type of weapon against their victims based on their relationships, potential policy implications can lower future victimization. Also, there has been some discrepancy in how victim/ offender relationships have been categorized in previous research. This study will attempt to provide a more structured classification of relationship types which can offer unyielding use for future studies to expand upon. With fluctuating homicide rates year after year, there is a continuous need for additional research into the topic of homicide.

CHAPTER II

LITERATURE REVIEW

This chapter examines previous literature regarding the association between the weapon used in a homicide and the victim- offender relationship. The chapter begins with the discussion of research pertaining to acquaintance/ stranger relationships, and intimate/ relative relationships. The distinction between these relationship types is important to understand homicide offender choice of weapon. Following the review of previous literature, rational choice theory will be presented along with a summary and critique of the literature. The chapter will close with a preview of the research question.

ACQUAINTANCE AND STRANGER RELATIONSHIPS

Prior literature suggests that victim- offender relationships cannot be classified into simple dichotomous stranger versus non-stranger groups. There are many different levels of victim- offender relationships that are much more involved than two simple groups. In addition, the definition of an “acquaintance” has been rather ambiguous when studying the relationship between victims and offenders (Decker, 1993). In 1993, Decker studied 792 reported homicides in St. Louis from 1985 to 1989 to examine the relationship between victim- offender characteristics and motive, individual attributes, and event characteristics. In this study, motive was characterized as either instrumental, or expressive. Instrumental means that the offender is seeking to achieve personal growth or gain and has rationally calculated their actions to minimize risk and meet their goal. On the other hand, Expressive motives fail to include rational thinking, where the offender acts on impulse or in self- defense. The individual attributes are

aggregated into age, race, and gender. More importantly to the present study, the event characteristics are classified into the presence and type of weapon (guns, personal contact, other), location of the event, and number of suspects.

Decker (1993) does not include “friends” and “strangers” in the “acquaintance” category because friends have too much familiarity to be deemed an acquaintance, and strangers have too little familiarity. Acquaintance homicide accounts for the largest percentage (46%) of homicides as Decker observed. Within the scope of Decker’s study, 74% of acquaintance homicides were committed using a firearm. Similarly, 75% of stranger homicides were committed using firearm. The more purposive the weapon, the less familiarity the offender has with the victim. Purposive weapons are more planned out and calculated, meaning the offender brought that weapon to the scene to commit the homicide.

A similar study was conducted by Fox and Allen (2004) to assess instrumental and expressive categories of homicide such as victim offender relationship and the type of weapon used. This study analyzed 30 years (1980-2009) of Uniform Crime Report Supplementary Homicide Data with a sample size of 208,219 homicides. In using correspondence analysis, the researchers created a new variable coded VOR (Victim- Offender Relationship). This variable combines the gender of the offender, the gender of the victim, and their type of relationship (Mf/Acq= Male offender, female victim, acquaintance; Mm/Acq= Male offender, male victim, acquaintance). Fox’s and Allen’s (2004) findings for acquaintance homicides and weapons used are rather interesting based on gender. The total number of males killing male acquaintances is 87,943. Of that total, 71% of males who kill male acquaintances use a firearm. The findings are similar for males who kill female acquaintances (53%). Females who kill male acquaintances predominantly use a knife (47%) as well as females who kill female acquaintances (45%).

Results for males killing male and female strangers remain consistent with the findings for acquaintances, as do females who kill both male and female strangers.

In another study, Quinet and Nunn (2014) sought to examine solved and unsolved homicides in Indianapolis from 2004-2011. Using a sample of 829 documented homicides, they evaluated victim-offender relationships with the method of homicide (weapon) for solved and unsolved murders. Of the 608 solved murders, acquaintance homicide had the greatest frequency with 326 (53%). Of the solved acquaintance homicides, 81% were committed by firearm. Similarly, 81% of homicides committed against a stranger were products of firearms, although stranger homicides only comprised 15% of the sample.

Cao, Hou, and Huang (2007) analyzed 308 homicides occurring from 1994-1998 in the District of Ban- ciao, Taiwan. The researchers examined correlates of homicide (age, gender, education, marriage, previous convictions, premeditation, weapons, crime premises, and crime time) with 3 types of victim- offender relationships (strangers, acquaintance/friends, and intimate) by running a multinomial logistic regression. In the study, acquaintance/friend homicide is observed the most at 48%, while stranger homicide is seen at 31% and intimate is calculated at 19%. Their variable for weapon is coded as no weapon/ no sharp weapon, use of gun or set on fire, and knife. The results from Cao et. al (2007) find that 64% of the homicides committed were by use of a knife, and only 15% of murder cases involved a gun or fire. Their findings also concluded that the weapon type was not statistically significantly related to the type of victim offender relationship. Although this study contributes to criminal justice research there are some critiques and limitations that could have potentially skewed results. First, the definition of "homicide" is slightly different in Taiwan in comparison to the United States. "Attempts to kill and assaults are excluded in the homicide definition in the United States, whereas they are

included in the homicide definition in Taiwan (Cao et.al 2007). The definition disparity may create a risk to generalize the findings from Taiwan homicides to the United States homicides. Also, Cao et al (2007) note that gun ownership in Taiwan is minimal unlike the United States where gun ownership is a constitutional right.

Osho and Williams (2013) expanded on the study by Cao et al. (2007) in the United States by examining 1,406 homicides collected from the Department of Justice Supplementary Homicide report with the California Department of Health Services vital statistics and mortality data from 1990-1999. Their study focused on homicides committed by juveniles aged 10-17. Osho and Williams (2013) use victim- offender relationship as the dependent variable broken down into stranger, acquaintance/ friend, and partner/family. The independent variables mirror Cao et al. (2007) variables (age, gender, education, marriage, previous convictions, premeditation, weapons, crime premises, and crime time). Osho and Williams (2013) analyzed descriptive statistics, Chi Square test, and facilitated a logistic regression analysis. Their findings revealed that 60% of incidents were acquaintance/friend homicide and 30% were stranger homicide. Unlike findings by Cao et. al (2007) where a knife was the most popular weapon, the weapon most frequently used in Osho's and Williams's (2013) study is a gun, and the use of it accounted for 86% of homicides. Consistent with Cao et al. (2007), the findings determine that there is not a statistically significant relationship between the weapon used and the victim offender relationship.

Pelletier and Pizzaro (2018) conducted a study examining the covariates of weapon choice in homicide events. Their dataset consisted of 821 total homicides that occurred in Newark, NJ from 1999-2007 and in Rochester, NY from 2000-2014. This study presented 2 research questions. First, what factors influence the use of a particular type of weapon in a

homicide? Second, how does the method of weapon retrieval, or lack thereof, affect the choice of weapon? The dependent variable for the first question is the type of weapon used to carry out the homicide aggregated into firearm (68%), cutting or blunt objects (21%), and other weapons (10.1%). The second dependent variable refers to the retrieval of the weapon, coded as: other (5.4%), on scene (12.2%), and carried (82%). Independent variables for this study include Location (inside or outdoors), Mode (face- to face, other), Alcohol (yes, no), Number of Offenders and Number of Victims (Continuous), Motive (other, drug/gang, dispute, robbery, domestic), Threat (yes, no), Planned (yes, no), Victim- Offender Relationship (intimate/family, friends/acquaintance, stranger), Victim/ Offender Gender (male, female), Victim/ Offender Ethnicity (other, Latino, African American), Victim/ Offender Drug Dealer/ Gang Member (yes, no) and Victim/ Offender Age (continuous).

Relevant to the present study, 60% of the Victim/ Offender Relationship observations were friends/acquaintance, 23% were strangers, and 17% were intimate/family. Pelletier and Pizzaro (2018) ran a multinomial logistic regression to estimate the probability of one outcome occurring relative to a reference category. Relative to homicides involving strangers, friend/ acquaintance homicides were more likely to be committed with a knife or blunt object as opposed to a firearm (Pelletier and Pizzaro 2018). The method of weapon retrieval did not result in statistical significance for victim- offender relationship.

Pizzaro, Holt, and Pelletier (2019) explored the situational transactions of homicides, and how those transactions differed based on incident weapon and the use of a firearm. This study encompassed a mixed methods approach. Quantitatively, data from 705 homicides from the Newark Homicide Project analyzed depending on descriptive frequencies, bivariate Chi square tests of independence, comparison of means, and a multivariate logistic regression to estimate

the probability of a firearm used to commit a homicide relative to other weapon types. The independent variables include planned aggression, drug related, gang related, victim- offender relationship, setting, mode, number of victims, and number of offenders. Victim/ offender relationship is coded into three subgroups: intimate/familial/friends, acquaintance, and stranger.

Qualitatively, 297 homicide incidents were recorded in Microsoft Word documents which were transferred into NVivo. “NVivo allows to manage, extract, compare, explore, and reassemble meaningful pieces of information from large amounts of rich and descriptive text in a rigorous and systematic way” (Pizzaro, Holt, and Pelletier 2019). Theoretical, data- driven codes were created, and research memos were conducted to examine relationships and explore the data. After this step, the codes were grouped into categories using NVivo until the data became saturated.

Saturation of the data was obtained when no new codes emerged, and cases were explained using these categories. These categories were selectively coded, which includes identifying the core qualitative variables and developing them into meaningful themes that describe the data in terms of the focused research questions (Pizzaro, Holt, and Pelletier 2019).

The study then relied upon the method of grounded theory to develop themes. Grounded theory “is based on the notion that phenomena are not static but are dynamic and subject to change” (Pizzaro, Holt, Pelletier 2019). The researcher determines the areas of interest to guide the study.

The quantitative descriptive statistics reveal that 77.7% were committed using a firearm, and 22.2% were committed by other means (knife/blunt object, hands/feet, other). Most of the victims and offenders had an acquaintance type relationship (38.4%). When compared to

intimate/familial/stranger relationship, a stranger relationship is statistically significant, increasing the odds of a firearm homicide by 5.929.

Qualitatively, the themes that emerged through Pizzaro's, Holt's, and Pelletier's (2019) analysis included "doing crime," "establishing the moral order," and "demanding esteem." Homicides using firearms fall under the "doing crime" theme which emerged in 73% of firearm homicides. Firearms were part of the lifestyle of offenders and victims, even if they did not know each other.

INTIMATE AND RELATIVE RELATIONSHIPS

In Decker (1993), findings related to intimate and relative relationships and weapon used varied from the aforementioned findings regarding acquaintance/ stranger relationships. Among friends, romantically linked persons, and relatives, however, the use of a weapon involving some form of personal contact (e.g., knives, clubs, hands) was nearly double that than for other categories (Decker 1993). The more intimate the relationship, the greater chance that a more personal weapon will be used. "Intense relationships seem more likely than more casual relationships to be insulated against the purposive efforts required in using a weapon" (Decker 1993).

In 1996, Decker wanted to further explore the classification of relationship types into different categories. Using the same dataset consisting of 792 homicides in St. Louis from 1985 to 1989, Decker (1996) categorized friends, relatives, and romantic links into the "intimate" group and classified "acquaintances" and "strangers" into their own respective groups. Firearms were used 363 times, and physical contact was used 142 times. Intimate homicides have been known to be more expressive than instrumental in nature. In this analysis, Decker (1996) found

some counterintuitive results. When physical contact was the primary weapon used, more instrumental motives were present for intimates. These findings contradict previous results where physical contact was more expressive in nature, meaning physical contact was less premeditated and more of an emotional response. Decker suggests that intensity of relationship is not as strong of a predictor in instrumental or expressive motive as previously studied.

Fox and Allen's (2004) two-way correspondence analysis places males who kill male family members, males who kill female family members, and females who kill female family members in the same results group. These three categories of VOR (victim-offender relationships) are more likely to use a blunt object or no weapon at all to facilitate the homicide. Females who kill male family members are more inclined to use a knife. One critique of this study is that Fox and Allen's classifications of "family" and "acquaintance" conflict with Decker's two classifications. Fox and Allen classify family as husbands, wives, sister, brother, son, daughter. They then classify boyfriends and girlfriends into the acquaintance category, where in other studies, these relationships would fall under "intimate" or "relative" relationships. The misclassification of boyfriends and girlfriends may render inconsistent results.

Pelletier and Pizzaro (2018) conclude that relative to incidents involving strangers, family/intimate partner homicides are more likely to be conducted using a knife or blunt object ($p < .05$). Also relative to homicides involving strangers, other weapons (hand/feet, motor vehicles, fire, ropes, pillows, and deprivation of food) are more likely to be used in family/intimate partner homicides ($p < .001$). These results conclude that the closer the relationship, the less lethal of a weapon used to commit the homicide. Moreover, in their qualitative analysis component of their mixed methods approach, Pizzaro, Holt, and Pelletier (2019) concluded that other weapon types (knives, blunt objects, bricks, motor vehicles, and the offender using their

own hands to beat or strangle the victim) fit the theme of “establishing moral order.” These incidents occur in a more private setting, involve less planned aggression, and are more emotional in nature. Additionally, their quantitative findings suggest that 70% of intimate/family/friend homicides are committed using methods other than firearms.

In another study, Soria et. al (2016) examined the sex differences between aggressors in partner homicides in Spain. Using Spanish Judicial Base Data, the researchers collected a total of ($N = 323$) partner homicides. Variables considered as expressive (previous threats/ violence, previous break-up, previous conflict, asphyxiation, stab wounds, gunshot, blunt object, suicide, turn himself to the police) were coded as “expressive violence.” Variables considered as instrumental (strangulation, burns and intoxication) were grouped together and codified as “instrumental violence.” Soria et. al (2016) were able to analyze descriptive statistics for percent differences between the genders and a one- way ANOVA in order to examine if any actions were associated with the sexes (Soria et. al 2016). The researchers concluded that stab wounds from sharp objects and blunt force were the most prominent cause of death between the genders. In addition, the only behavior statistically significant with a type of gender is strangulation by females. This finding is interesting and inconsistent with other previous studies.

A criticism of the study by Soria et. al (2016) is how the researchers classified gunshots as expressive and strangulation and burns as instrumental. Decker (1993,1996) argued that the use of firearms is premeditated and not an act of emotion, whereas strangulation is an emotional expressive response that did not take prior calculation or premeditation.

Chan and Beauregard (2014) were interested in studying the interactions between victim characteristics in single-victim male sexual homicide offenders. The data for this study was taken from the FBI Supplementary Homicide Report from the years 1976-2001. The final sample

included 2,472 single- victim male sexual homicide offenders (SHOs). In relation to the present study, the offenders' choice of weapon type was categorized as either a personal weapon or an edged weapon. Personal weapons include killing with hands and feet, strangulation, beating, asphyxiation, drowning, and defenestration (the act of throwing someone out of a window), whereas edged weapons are referred to as different types of knives. Victims were dichotomized as either a stranger or non-stranger (Chan and Beauregard 2014). Other variables examined include, SHOs age and race, victims age, race, and gender, and location urbaneness level. The researchers run exhaustive chi- square interaction detector and conjunctive analysis.

Results showed that 42.9% of male (SHOs) used a personal weapon, whereas 29.3% used an edged weapon, and 65.4% knew their victim. As a result of the conjunctive analysis, sexual killers are the least likely to use a knife during the sexual homicide when the victim is male, non-adult, not a stranger, and of a different race from the perpetrator. Interestingly, SHOs are also likely to kill with a personal weapon following this same combination of variables. Alternatively, SHOs are most likely to use a knife when the victim is male and of a different race, regardless of age and relationship. (Chan and Beauregard 2014). In simpler terms, SHOs are more inclined to use personal weapons when the victim seems to be physically weaker than they are. A limitation in this study is the dichotomous stranger, non- stranger relationship. As previously stated, relationships are much more complex and must be classified as such.

In 2009, Mize, Shackelford, and Shackelford studied whether the percentage of intimate partner homicides by beating, a hands-on homicide method, varies with the victim-offender relationship. Using the FBI Supplementary Homicide Report from 1976-2001, the researchers examined a sample size of 50,279 total intimate partner homicides. Their findings for homicides by physical beatings show that men are more likely to beat their wives, girlfriends, and ex- wives

than females are. Further descriptive findings relevant to the present study show that amongst intimate partner homicides, firearms are the most common, followed by knives, and trailed by personal weapons (Mize, Shackelford, and Shackelford 2009).

A final study was interested in the gender differences in homicide in Contra Costa County, California from 1982-1983. Pratt and Deosaransingh (1997) examined Uniform Crime Report data for rates of homicide reported per 100,000 person- years. Data were analyzed to determine proportions of rates of homicide by gender of the victim, victim- offender relationship, age of the victim, weapon used, location of the homicide, the precipitating circumstances, and gender of the offender. Their findings in relation to the present study conclude that firearms are the weapon mostly used in homicides by both genders, across all victim- offender relationships. However, firearms were used in a significantly lower percentage of female committed homicides (56%) than males (73%). Furthermore, female committed homicides used more expressive type weapons (blunt objects, personal weapons; 24.9%) than homicides committed by males (10.6%). Additionally, females only committed about 10% of the homicides in Contra Costa County, yet they committed 74% of intimate, familial, or spousal homicide. Pratt and Deosaransingh (1997) continue to a discussion where females are potentially killing their male partners in self- defense or in an emotional response to a lasting abusive relationship.

THEORETICAL FRAMEWORK

This section provides a discussion of the theoretical framework for rational choice theory and how it relates to homicide weapon choice. The concepts and assumptions from Cornish and Clarke's formulation of rational choice theory in 1985 will be discussed along with the pertinence of the theory to the present study.

Rational Choice Theory

According to rational choice theory, offenders engage in a cost–benefit analysis before committing a crime and proceed with the action if the situational conditions favor them and allow them to meet their needs (Cornish and Clarke 1985). Offenders will decide to commit a crime when a favorable opportunity presents itself. When there is an advantageous outcome, lower risk of being caught, and the situation requires minimal effort, the likelihood that one will participate in criminal activity increases. According to the theory, offenders are assumed to be of sound mind, rational, and exercise free-will in their decision making.

Cornish and Clarke (1985) distinguish between two decision points that motivate one’s decision making: involvement, and event decisions. First, involvement decisions comprise of the offender’s initial choice to participate in crime. The individual’s “readiness” to commit a crime is a product of their consideration, where the commission of the crime will satisfy their needs (Cornish and Clarke 1985). The offender is also influenced by his or her own values and attitudes during the criminal involvement process. Cornish and Clarke (1985) argue that traditional criminology has been preoccupied with studying these background factors which motivate individuals to commit crime. This argument segues into the second decision making point- event decisions. Event decisions are choices made regarding which crime to commit and how it would be committed.

In order to support their theory, Cornish and Clarke (1985) studied residential burglary in middle- class suburbs. They theorized that an individual’s initial involvement in the commission of a crime was not only influenced by background factors such as psychological, familial, and socioeconomic, but the situation that the individual is in and the opportunity to commit a crime successfully. After the offender decides to commit burglary, their second decision point, criminal

event, comes into play. During the criminal event, the offender will decide which house to burglarize based on the situational factors present. In their study, offenders choose middle- class suburban areas because they are easily accessible, few police patrols, and there are usually bushes for cover (Cornish and Clarke 1985).

It is also important to understand that the two decision points may occur almost simultaneously (Cornish and Clarke 1985). “The chance event may not only precipitate the decision to burgle but may also play a part in the perception and evaluation of solutions to generalized needs” (Cornish and Clarke 1985). As a result, the researchers theorize that the decision- making models for rational choice theory must be crime specific, meaning that the decision- making processes to burglarize in middle- class suburbs will be different than the decision- making processes to commit homicide.

Rational choice theory was constructed by Cornish and Clarke to understand property crimes and a major criticism has been that it cannot be generalized to other crimes. Loughran et al. (2016) conducted a study across multiple types of crime to better understand the applicability of rational choice theory to other types of crime. In relation to the present study, one of the types of crimes Loughran et al. (2016) tested was violent crimes. Their categorization of violent crimes include murder, rape, shooting at someone, and assaults. They collected self- reported offending data on perceived cost and benefits of the crime.

Overall, the pattern of the results suggests that offenders behave in a rational way with respect to perceived changes in the costs and benefits of crime. In this population, which many assume to be motivated more by irrational, emotional factors, both the benefits and costs of behavior seem to matter, and the rational

consideration of costs and benefits characterize both property and expressive crimes such as violence and drug offenses alike (Loughran et al. 2016).

Rational choice theory was previously criticized for its assumed irrelevance to explain violent crimes. According to Loughran et al. (2016), violent crimes fall under the theory along with property crimes. The researcher's broad categorization of violent crimes to include murder, rape, shooting at someone, and assaults provides a generalizable application of rational choice theory to a broad variety of criminal acts.

Rational choice theory is of interest for the present study because homicide offenders' choice of weapon is influenced by their relationship to the victim, and the situation they find themselves in. "The presence of a weapon has been shown by researchers to influence the transactions that culminate in a murder. Knives, blunt objects, firearms, and other weapons can facilitate the commission of a violent act, but of these, a firearm can guarantee victory during coercive transactions given its lethality" (Cook, 1983). Firearms can be used from a distance and do not require physical contact, therefore lessening the chance of the offender leaving potential evidence at the scene.

"Studies that have examined offender decision making in the commission of robberies and assaults that culminate in a homicide have found support for the notion that offender's choice of weapon is governed by cost-benefit analyses similar to those proposed by rational choice theory." (Pelletier and Pizzaro 2018). Cook (1983) found that "robbers select their weapons based on its capacity to help them get the job done, the vulnerability of the potential victim, the lethality of the weapon in the event the crime does not go as planned, and if the weapon is available to them." Pelletier and Pizzaro (2018) claim that behavior of victims during assaults influenced the behavior of offenders, and that in events where the victim resisted the

assault or displayed a weapon first, the offenders were more likely to use a weapon themselves. In these instances, the homicide offender's weapon choice is decided through their cost- benefit decision influenced by the victim- offender relationship, and the situational factors during the commission of another crime.

SUMMARY AND CRITIQUE

Based on the findings from previous research presented in this literature review, two common themes of acquaintance/ stranger relationships and intimate/ relative relationships emerged in relation to weapon choice. Acquaintance relationships made up the greatest percentage in homicides studied, and the weapon of choice was most frequently a firearm. However, results did show that amongst intimate and relative homicides, there was a greater percentage of knives and personal weapons used in relation to the acquaintance and stranger category. Although these findings held true across most studies, acquaintance and stranger homicides are not proven to be only committed by firearm in an instrumental fashion. Moreover, intimate/ relative homicides are not only subject to homicides committed with knives or personal weapons. Other situational factors that have an impact on weapon choice were also explored in previous research including victim- offender age, gender, race, location of crime, and the circumstance surrounding the event.

Although the previous empirical studies provide insights into victim- offender relationships and weapon choice, there were some limitations in the available literature. First, across different studies, researchers had different definitions of an "acquaintance." Decker (1993) claimed that friends were too intimate to be included as acquaintances and strangers were too unknown. Fox and Allen (2004) grouped friends, boyfriends, and girlfriends into the

acquaintance category which contradicts the consistency of other studies. Likewise, Chan and Beauregard (2014) used a dichotomous classification as “stranger” and “non- stranger” relationships. These broad categorizations can mask true commonalities and results amongst other kinds of relationships. Without a true distinction between what is classified as an “acquaintance,” findings may be interpreted differently, and a significant conclusion is harder to make. Second, based on a study in Taiwan (Cao, Hou, Huang 2007), and another in Spain (Soria et. al 2016), it is clear that the decision- making processes amongst the homicide offenders in Taiwan and Spain differ from the decision- making processes of offenders in the United States due to different opportunity and situational factors. For example, in Taiwan there is less gun ownership than the United States, significantly lowering the number of homicides committed with a firearm. This distinction is noteworthy because firearms are the leading homicide weapon in the U.S. It may be harder to generalize quantitative findings from different countries because of the cultural differences. Furthermore, the definition of “homicide” in Taiwan includes attempted homicide whereas in the United States, homicide and attempted homicide are not interchangeable.

Despite these limitations, the available research provided fruitful findings of which the present study will look to expand upon and contribute to the ever-growing interest in understanding victim- offender relationships and weapon choice in the homicide phenomenon. Presented below is the research question that will be guiding this study.

RESEARCH QUESTION

This section will include the research question that will guide the study of victim- offender relationships and weapon choice in homicides. Using Cornish and Clarke's rational choice theory, the present research will ask and answer the following question:

- Do the circumstances of the event and victim- offender relationship influence the choice of homicide weapon?

CHAPTER III

METHODOLOGY

This chapter provides an overview of the research methodology. First, a discussion of the research design is provided, followed by the research question. Next, the data source is discussed along with the variables in the study along with an overview of the data analysis used.

RESEARCH DESIGN

This research is a quantitative, cross-sectional research design that examines the relationship between the homicide victim-offender relationship and the weapon used to commit the murder. The data consists of 7612 single-offender/ single victim homicide events that occurred in the United States in 2016 according to the FBI Uniform Crime Reporting Program Data: Supplementary Homicide Reports. Overall demographic characteristics for the data include 73.4% male and 26.5% female victims, as well as 89.7% male and 10.0% female offenders. The victims' and offenders' ages ranged from 1- 99 or older, with the victim's mode age range from 30-54, and offender's mode age range from 18-29 years old. The sample is also made up of victims that are 52.7% White, 42.7% Black, 2.0% Asian, 1.4% American Indian or Alaskan Native, and 1.2% Unknown. The sample offender's racial composition is 49.5% White, 45.6% Black, 1.7% Asian, 1.2% American Native, and 2.1% Unknown.

RESEARCH QUESTION

The study is interested in exploring the relationship between the homicide victim-offender relationship and the weapon used. The research will ask and answer the following question:

- Do the circumstances of the event and victim-offender relationship influence the choice of homicide weapon?

HYPOTHESIS

- If the offender has a prior relationship to the victim, then their likelihood of using more personal weapons increase.

DATA SOURCE

The data from this study is taken from the 2016 FBI Uniform Crime Reporting Program Data: Supplementary Homicide Report accessed through ICPSR. UCR program contributors compile and submit crime data directly to the FBI or through their state UCR programs (U.S. and FBI 2016). Data for up to eleven offenders per incident were collected and a sample size of 15,331 total reported homicide incidents in the United States and United States Territories in 2016, was created.

The present study focuses only on single- offender/ single victim homicides; therefore, all other homicide incidents involving multiple victims or multiple offenders are removed from the analysis leaving 7612 single- offender/ single- victim homicide incidents. After the variables below were recoded, and missing value were removed, the final sample analysis consisted of 4,051 single- offender/ single- victim homicide incidents.

VARIABLES

Dependent Variable

The dependent variable in this study is the type of weapon used to commit the homicide. There are three weapon types that are analyzed, the first of which is *Firearms*. Within the data, the *Firearm* variable includes handguns, rifles, shotguns, and other guns. Second, *the Knife/ Blunt Object* variable is comprised of any knife or blunt object. Finally, *Personal Weapons* includes personal weapons (hands/ feet), pushed out a window, and strangulation.

Independent Variables

There are two independent variables in this study, the victim/ offender relationship, and the circumstance of the event surrounding the homicide. Each variable that falls under the two independent variables have been dichotomized into binary 0= No or 1= Yes observations, which is shown in Table 1. There were four kinds of victim/ offender relationships studied. First, the *Acquaintance* variable is comprised of relationships such as acquaintance, employee, employer, neighbor, and other relationship known to the offender. *Intimate partners* consist of boyfriend, girlfriend, common- law husband, common- law wife, homosexual relationship, husband, wife, ex-husband, and ex-wife relationships. The third relationship variable is *Non- Intimate Family/ Friend*. This includes brother, sister, mother, father, daughter, son, in-law, friend, stepson, stepdaughter, stepmother, stepfather, and other family. Lastly, the *Stranger* variable is made up of strictly stranger relationships.

The circumstance independent variable is divided into 2 dichotomous variables. The first circumstance surrounding the homicide is the commission of a *Felony*. The types of felonies that make up this variable include rape, robbery, burglary, larceny, motor vehicle theft, arson, prostitution, other sex offenses, narcotic drug laws, gambling, gang- related incidents, all

suspected felony types, felon killed by citizen, and felon killed by police. The second type of circumstance is *Argument* which is comprised of brawls induced by alcohol, brawls induced by narcotics, arguments over money, and other arguments.

Rational choice theory provides the rationale for including two independent variables. Research cannot focus on one variable as the sole influence on offender weapon choice. To understand why an offender chooses a certain type of weapon to use in a homicide depends on the type of relationship with the victim, and the circumstance of the event. The offender's decision to use more lethal weapons will be based on the level of relationship with the victim and the magnitude of the situation. *Felony* situations where the offender chooses to use a firearm are more premeditated and involve more thought into their cost- benefit analysis than would a situation such as an *argument* where the weapon choice will be based more on emotion and what is available to use in the moment.

Control Variables

The control variables in this study are *victim age*, *victim sex*, *victim race*, *offender age*, *offender sex*, and *offender race*.

Victim age is measured at the scale level. *Victim sex* is dichotomized as 0=Male and 1=Female. *Victim race* is dichotomized as 0= Non-white and 1=White. Additional control variables are included to measure the offender's demographics as well. *Offender age* is measured at the scale level. *Offender sex* is dichotomized the same as victim sex, 0= Male and 1= Female. Likewise, *Offender race* is coded the same as victim race, 0= Non-white and 1= White.

TABLE 1. Variables in the Study

DEPENDENT VARIABLE	OPERATIONALIZATION	CODING
<i>Weapon Type</i>	What kind of weapon was used to commit the homicide?	
Firearm		0= Other; 1= Firearm
Knife/ Blunt Object		0= Other; 1= Knife/ Blunt Object
Personal Weapon		0= Other; 1= Personal Weapon
INDEPENDENT VARIABLES		
<i>Relationship</i>	Relationship between the victim and the offender.	
Acquaintance		0= Other; 1= Acquaintance
Intimate Partner		0= Other; 1= Intimate Partner
Non- Intimate Family/ Friend		0= Other; 1= Family/ Friend
Stranger		0= Other; 1= Stranger
<i>Circumstance</i>	Circumstance of the event surrounding the homicide.	
Felony		0= Other; 1= Felony
Argument		0= Other; 1= Argument
CONTROL VARIABLES		
<i>Victim Age</i>	Age of the victim at their time of death.	Scale
<i>Victim Sex</i>	Sex of the victim.	0= Male; 1= Female
<i>Victim Race</i>	Race of the victim.	0= Non- white; 1= White
<i>Offender Age</i>	Age of the offender during the commission of the homicide.	Scale
<i>Offender Sex</i>	Sex of the offender.	0= Male; 1= Female
<i>Offender Race</i>	Race of the offender.	0= Non- white; 1= White

DATA ANALYSIS

Several statistical techniques will be used in this study to provide, descriptive, bivariate, and multivariate analyses.

Descriptive Statistics

The mode is the most appropriate measure of central tendency for the variables at a categorical level. The mode can be used with lower levels of data such as ordinal and nominal, whereas the mean cannot. Since mathematical calculations cannot be used for nominal data, the mean would be the incorrect measure of central tendency. (Abbott 2017). As such, the mean will be the measure of central tendency used only for the victim and offender ages because they are at the scale level.

Bivariate Analysis

A Chi-Square was the appropriate bivariate analysis because the dependent variables were measured at the binary categorical level. “Chi-square is a statistical procedure that primarily uses nominal, or categorical, data. It works by examining frequency counts or the number of people or observations that fit into different categories” (Abbott 2017:455). χ^2 analyses are used to examine if there is a statistical association between two variables. Since control variables victim and offender age are measured at the scale level, for the χ^2 analysis they were recoded as categorical.

Multivariate Analysis

Since the dependent variables for weapon type are categorical, and each is dichotomous coded as 0 and 1, a binary logistic regression was the appropriate analysis to be run. “In this procedure, predictor variables can be either or both continuous or/and categorical. The overall attempt is to identify the likelihood of an outcome taking place or not” (Abbott 2017).

There are six models presented, two for each weapon type. Model 1 presents the multivariate findings for *firearms* before the inclusion of the control variables, and Model 2 presents findings for *firearms* with the effects of the control variables considered. Model 3 offers findings for *knife/ blunt objects* before the control variables were considered, and Model 4 includes the effects of the control variables for *knife/ blunt objects*. Model 5 displays the results for *personal weapons* before the control variables were considered, and Model 6 offers the findings for *personal weapons* with the effects of the control variables.

Significance Level

Based on previous literature, the p- value was set at 0.05, meaning that there is a 5% chance that the results are due to chance.

This chapter presented the research design, research questions, the data source, the variables in the study, and the appropriate data analyses. The next chapter will present the findings for this research study.

CHAPTER IV

RESULTS

This chapter examines the findings presented from the statistical analysis between the dependent variable, weapon type, and the independent variables, victim/ offender relationship and circumstance of the event. The chapter opens with a discussion of the descriptive statistics, followed by the chi- square test, and concluding with the binary logistic regression.

DESCRIPTIVE STATISTICS

Table 2 provides an overview of the variables used in the statistical analysis. The weapon type that is used the most in the study sample is *Firearms* (69.2%). The remaining weapon type percentages are as follows: *Knife/ Blunt Object* (23.1%), and *Personal Weapons* (7.7).

The independent variable for victim offender relationship type observes *acquaintance* relationships the most (33.5%), followed by *stranger* relationships with 32.4%. The *non-intimate family/ friend* variable holds 15.7% of the sample and *intimate partners* make up 18.3%. The second independent variable for event circumstance, is made up mostly of homicides committed as a result of an *argument* (61.5%). Homicides that were committed during the commission of a *felony* result in 38.5% of the sample.

The first control variable, *victim age*, has a mean of 36.96 years old. The second control variable, *victim sex*, is observed as Female (23.1%), and Male (76.9%). Descriptive statistics for *victim race* are Non- white (46%) and White (54%).

The average offender age in the study is 33.27 years old. Like *victim sex*, the descriptive for *offender sex* follow the same trend. Males are the most common offenders with 91.4% and

Females offend in 8.6% of the cases. *Offender race* is made up of mostly White offenders (52.1%), and Non- white offenders make up 47.9% of the sample.

TABLE 2. Descriptive Statistics

DEPENDENT VARIABLE	n	Percentage or Measure of Central Tendency
<i>Weapon Type</i>		
Firearm	2803	69.2%
Knife/ Blunt Object	936	23.1%
Personal Weapon	312	7.7%
INDEPENDENT VARIABLES		
<i>Relationship</i>		
Acquaintance	1359	33.5%
Intimate Partner	743	18.3%
Non- Intimate Family/ Friend	638	15.7%
Stranger	1311	32.4%
<i>Circumstance</i>		
Felony	1558	38.5%
Argument	2493	61.5%
CONTROL VARIABLES		
<i>Victim Age</i>	4051	36.96 (Mean)
<i>Victim Sex</i>		
Female	937	23.1%
Male	3114	76.9%
<i>Victim Race</i>		
Non- White	1865	46%
White	2186	54%
<i>Offender Age</i>	4051	33.27 (Mean)
<i>Offender Sex</i>		
Female	350	8.6%
Male	3701	91.4%
<i>Offender Race</i>		
Non- White	1939	47.9%
White	2112	52.1%

BIVARIATE ANALYSIS

Table 3 presents the full bivariate findings from the χ^2 analysis. Interestingly, *acquaintance* relationships had no significant correlation with any of the weapon types. Additionally, *offender age* was not statistically significant with the use of a *knife*, and *offender sex* was not significant with the use of *personal weapons*. There is not enough statistical evidence to suggest an association between these variables and weapon type.

The crosstabulations between each weapon type and *intimate partners*, *non-intimate family/friends*, and *strangers* results in statistically significant findings. These results suggest that the null hypothesis of independence can be rejected, and the alternate hypothesis that there are significant associations between the variables and weapon type can be accepted.

TABLE 3. Chi- Square

	Firearm	Knife/ Blunt Object	Personal Weapon
INDEPENDENT VARIABLES			
<i>Relationship</i>			
Acquaintance	3.16	2.02	.69
Intimate	58.66*	44.59*	7.33*
Non- Intimate Family/ Friend	72.99*	43.68*	18.88*
Stranger	125.27*	85.28*	22.87*
<i>Circumstance</i>			
Felony	178.45*	137.39*	21.18*
CONTROL VARIABLES			
<i>Victim Age</i>			
	360.69*	187.92*	367.79*
<i>Victim Sex</i>			
Female	115.80*	48.16*	58.72*
<i>Victim Race</i>			
White	64.41*	21.44*	43.27*
<i>Offender Age</i>			
	125.21*	97.05	104.43*
<i>Offender Sex</i>			
Female	64.25*	99.36*	3.53
<i>Offender Race</i>			
White	39.56*	20.05*	14.55*

Note. $p < 0.05^*$

MULTIVARIATE ANALYSIS

Table 4 presents the findings for the binary logistic regression, broken down into six models: Model 1- Firearms, Model 2- Firearms with control variables, Model 3- Knife/ Blunt Objects, Model 4- Knife/ Blunt Objects with control variables, Model 5- Personal Weapons, and Model 6- Personal Weapons with control variables. Models 1, 3, and 5, are greatly impacted by the inclusion of control variables. Each regression coefficient (B), or log- odds, is discussed as a percentage during interpretation.

Model 1 displays the findings for *firearms*. The first independent variable of interest is relationship, with *stranger* relationships as the reference category. *Acquaintance* relationships are statistically significant ($p < .05$) and are 35% less likely to involve the use of a *firearm* than *stranger* relationships. A statistically significant relationship at the $< .05$ level means that the relationship observed in the sample is likely not by chance and will be observed in the wider population. *Intimate* relationships are statistically significant and are 78% less likely to use a *firearm* in a homicide than are *strangers*. In reference to *strangers*, *non- intimate family/ friends* are 90% less likely to use a *firearm* to commit a homicide.

The second independent variable, circumstance, examines the commission of a *felony* during the homicide with *arguments* as the reference category. Significantly, felonies that result in homicides are about 78% more likely to have been committed by use of a *firearm* than are homicides committed from the start of an *argument*.

In Model 2, when controlling for *victim* and *offender age*, *victim* and *offender sex*, and *victim* and *offender race*, there are some variations in the findings. *Acquaintances* are 33% less likely to use a *firearm* in reference to *strangers*, leaving a 2% variation from before the effects of controls were considered. Additionally, *intimate partners* are not statistically significant at $p < .05$

when control variables were added. *Non- intimate family/ friends* are 61% less likely than *strangers* to use *firearms*, which is about a 30% variation from before the control variables were considered. Also, with the addition of the control variables, *firearms* are 85% more likely to be used in felonious attacks than during situations of mere arguments, creating a 7% variation.

Females are 74% less likely to be victimized by use of *firearms* than are males.

Additionally, white victims were 34% less likely than non- white victims to have been murdered with a *firearm*. Female offenders were 86% less likely to have used a *firearm* to commit a homicide as opposed to male offenders, and white offenders were 14% less likely to have used a *firearm* than non- white offenders.

Model 3 incorporates the findings from *the knife/ blunt object* weapon type. Contrary to the findings on use of *firearm* in Model 1, a *knife/blunt object* is more likely to be used on acquaintances 32% of the time opposed to *strangers*, 71% of the time on *intimate partners*, and 80% of the time on family/friends who are not intimate partners. When evaluating circumstances, during commission of a *felony*, homicide offenders are about 76% less likely to use a *knife/ blunt object* than in homicides that were started from an *argument*.

When the effects of the control variables are considered in Model 4, *acquaintance* use of a *knife/ blunt object* drops by a slight 2% variation from 32% to 30%. *Intimate partners* use of a *knife/ blunt object* are not statistically significant with the inclusion of the control variables, but with *non- intimate family and friends*, there is a 23% significant statistical variation from 80% to 57% after control effects are included. Nonetheless, *family and friends still used a knife or blunt object* 57% more times than *strangers*. When focusing on the circumstance of the event, *felony* offenders are 79% less likely to use a *knife or blunt object* than are offenders who committed

homicide prompted by an *argument*. This is a 3% increase from before the inclusion of the control variables.

Females were 46% more likely victimized by a *knife or blunt object* than males, and white victims were 10% more likely victimized by a *knife or blunt object* than were non- white victims. Interestingly, female offenders were 102% more likely to use a *knife or blunt object* than were male offenders, and white offenders were 24% more likely to use a *knife or blunt object* than were non- white offenders.

Model 5, evaluating *personal weapons* depicts *acquaintance* relationships as insignificant in reference to *strangers*. Furthermore, *intimate partners* are statistically significant and are 56% more likely to use *personal weapons* than are *strangers*. Similarly, *non- intimate family and friends* are 67% more likely to use *personal weapon* than are *strangers*. The *felony* circumstance is also significant. *Felony* offenders are 48% less likely to commit using a *personal weapon* than are offenders who have committed homicide as the result of an *argument*.

The findings in Model 6 includes the effects of the control variables, where *acquaintance* relationships, *intimate relationships*, and *non- intimate family/ friend* relationships are all insignificant at 0.05 as it relates to *strangers*. However, those involved in *felony* circumstances are 55% less likely to use *personal weapons* than are those involved in *arguments*, which is a 7% decrease in variation.

Female victims were 79% more likely to have been killed by use of a *personal weapon* than were male victims, and white victims were 78% more likely than non- whites to have been killed by use of a *personal weapon*. Female offenders were 59% less likely to use *personal weapons* than were male offenders, and white offenders were 26% less likely than non- white offenders to use *personal weapons*.

Interestingly in Models 2,4, and 6, *intimate partner* relationships are insignificant in predicting weapon type with the effects of the control variables. In Model 1, *stranger* relationships and *felony* circumstances have the strongest influence on the use of a *firearm*. The findings in Model 3 for *knife/ blunt object* homicides are influenced the most by *non- intimate family/ friend relationships* and *argument* circumstances. *Personal weapons* only observed statistical significance in Model 5 before the inclusion of the control variables in for *intimate partners* and *non- intimate family/ friend relationships*, in which family and friends and *argument* circumstances had the most influence on *personal weapon* use.

TABLE 4. Binary Logistic Regression

INDEPENDENT VARIABLES	Firearms (B)		Knife/ Blunt Object (B)		Personal Weapons (B)	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
<i>Relationship</i>						
Acquaintance	-.350*	-.331*	.319*	.304*	.302	.268
Intimate	-.785*	-.094	.710*	.211	.569*	-.059
Non- Intimate Family/ Friend	-.906*	-.608*	.805*	.571*	.667*	.283
<i>Circumstance</i>						
Felony	.779*	.848*	-.758*	-.793*	-.484*	-.557*
CONTROL VARIABLES						
<i>Victim Age</i>		-.029*		.020*		.029*
<i>Victim Sex</i>		-.736*		.458*		.785*
<i>Victim Race</i>		-.339*		.100		.775*
<i>Offender Age</i>		.014*		-.013*		-.007
<i>Offender Sex</i>		-.862*		1.023*		-.589*
<i>Offender Race</i>		-.136		.242*		-.255

Note. $p < 0.05^*$

Stranger relationships and argument circumstances are reference categories

CHAPTER V

DISCUSSION AND CONCLUSION

The regression models provide some evidence to answer the research question and hypothesis presented in the study. To reiterate, the research question guiding the study is, do the circumstances of the event and victim- offender relationship influence the choice of homicide weapon? Furthermore, the hypothesis infers that if the offender has a prior relationship to the victim, then their likelihood of using more personal weapons increase. The findings reflect similar results as those of Pelletier and Pizzaro (2018).

The study also presents value through the lens of rational choice theory. Looking first at firearms, strangers were the most likely to use firearms and family and friends were least likely to use firearms. Rational choice would suggest that offenders who are unfamiliar with their victims and their victim's capabilities, might choose the most lethal weapon possible to maximize their chance at a successful homicide. In addition, felonies constituted the greater use of firearms as opposed to homicides sparked by arguments. In this case, rational choice would suggest that there is a decision- making process on the offender's part to actually bring a gun to the scene, in the case where the preceding felony presents potential or perceived threat.

The knife and blunt object weapon type further affirms rational choice theory in that although intimate partner relationships were not statistically significant after the addition of control variables, the non- intimate family and friends' relationships provide credence. Family and friends were much more likely to use a knife or blunt object than were strangers. Theoretically, this makes sense because the offender knows the capabilities of the victim; as such, the offender can determine an appropriate weapon of use based on the situation.

Regarding circumstance, arguments were much more likely to precede a homicide committed by use of a knife or blunt object than were felony circumstances. In the heat of an argument induced by alcohol, drugs, or just anger alone, one could grab any object in reach to use as a weapon. Rational choice may not be pertinent to this type of transaction, due to clouded rationality induced by the influence of alcohol or drugs, which may cause the offender to act in ways they normally would not, or because of their moral code or other background or social factors that constrain rational thought. The evidence presented in the findings may not support rational choice for these circumstances. One very interesting finding that must be mentioned is that females were much more likely to use a knife or blunt object than males. This is potentially due to a self- defense situation where they are likely to grab anything in reach to protect themselves.

The use of personal weapons was not statistically significant for any relationship type after the control variables were considered. In looking at victim offender relationships before the consideration of control variables, family and friends were the most likely relationship to use personal weapons, and arguments were more likely to have preceded a personal weapon murder. These homicides are committed either as reactive emotional response(s), or because the offender(s) knows that they would be successful using their hands or feet based on their familiarity with the victim.

As a result of the findings, one can infer that the use of firearms constitutes the most effort into the decision- making process and perhaps the highest level of rational thinking. These offenders use the most lethal weapon to guarantee their success against a victim who may or may not be physically stronger than them. These offenders also act from a distance, therefore decreasing their chance to be harmed during any circumstance. Offenders who act with a knife,

blunt object, or personal weapons perhaps have a quicker decision- making process and clouded or limited rationality which may cause them to act in an emotional, reactive way of which they would not have acted in under different circumstances.

The research question presented could be confidently answered in that victim/ offender relationships and the circumstances of the event influence the type of weapon used in a homicide. The hypothesis could be accepted with caution. There is a clear distinction between stranger relationships likelihood to use firearms, and family and friend's likelihood to use a handheld weapon. Since intimate partner relationships were not statistically significant, there could only be speculation that this relationship type would follow suit with family and friend relationships. In any case, there is a distinction between choice of weapon for offenders who do not know their victim and offenders who have had a prior relationship with their victim.

LIMITATIONS AND DIRECTION FOR FUTURE RESEARCH

The first limitation that is observed in the study is that the cross- sectional design focuses on data only from 2016. If this study were to have a longitudinal design, where the data were collected over a span of years, potential developments or changes would be observed. Additionally, since the present study is using secondary data, there were limited variables that were provided in the original dataset. In other words, there are many other variables that could be controlled for; but were not considered in the original dataset. A third limitation is that the data collected by the FBI UCR is arrest data. This means that some of the offenders included in this study could have been acquitted in court and had nothing to actually do with the homicide. Another limitation was observed in the results section. The bivariate insignificance of the

acquaintance victim/ offender relationship could be due to the ambiguity of what is considered an “acquaintance” (Decker 1993).

There is always a need for further research regarding any topic. One suggestion is to focus on homicide locations to determine if homicide weapon types vary across different areas of the city, state, and country. The present study did not focus on location, but this is an interesting variable that could produce significant implications. For example, if homicides are occurring as the result of a felony with a firearm in certain locations opposed to others, policies could focus on gun law reform along with greater authoritative attention to these areas. Another variable that could be of interest is socioeconomic status. Future research could examine potential homicide weapon use patterns across offenders of different socioeconomic statuses. Also, exploring how these weapons are obtained, legally or illegally, will bring about policy suggestions focusing on stricter firearm control. Additionally, further exploration could consider multiple offender and multiple victim data which could result in an increase or decrease in rational decision-making processes based on influence from another party. Also, the present study does not examine the offender’s motive to kill. Killing someone in a bar fight is not the same as a targeted hit on a rival gang member. Although FBI UCR data does not distinguish motive, and at times motive is not required to prosecute a criminal or to explain why a crime occurred, future research could look deeper into the offender’s reason for killing, as a result for such inquiries may be useful in the ever-expanding discipline of criminology. The final suggestion for future research to really understand why an offender chose to use a certain weapon to carry out a homicide would be to conduct a qualitative study which interviews the offenders. Conducting an interview and collecting information directly from the source of the homicide would go beyond creating a statistical inference based on quantitative data.

BIBLIOGRAPHY

- Abbott, Martin. 2017. "Using Statistics in the Social and Health Sciences with SPSS and Excel." *John Wiley and Sons, Inc.*
- Cao, Liquan, Charles Hou, and Bu Huang. 2007. "Correlates Of The Victim–Offender Relationship In Homicide." *International Journal of Offender Therapy and Comparative Criminology* 52(6):658-672.
- Chan, Heng Choon Oliver, and Eric Beauregard. 2014. "Choice Of Weapon Or Weapon Of Choice? Examining The Interactions Between Victim Characteristics In Single-Victim Male Sexual Homicide Offenders." *Journal of Investigative Psychology and Offender Profiling* 13(1):70-88.
- Clarke, Ronald V., and Derek B. Cornish. 1985. "Modeling Offenders' Decisions: A Framework For Research And Policy." *Crime and Justice* 6:147-185.
- Cohen, Lawrence E. and Marcus Felson. 1979. "Social Change and Crime Rate Trends: A Routine Activity Approach." *American Sociological Review* 44(4):588.
- Cook, P. J. 1983. "The Influence of Gun Availability on Violent Crime Patterns." *Crime and Justice: An annual Review of Research. The University of Chicago Press.* 4:49-89.
- Decker, Scott H. 1993. "Exploring Victim-Offender Relationships In Homicide: The Role Of Individual And Event Characteristics." *Justice Quarterly* 10(4):585-612.
- Decker, Scott H. 1996. "Deviant Homicide: A New Look at the Role of Motives and Victim-Offender Relationships." *Journal of Research in Crime and Delinquency* 33(4):427–49.
- Fox, Kathleen A., and Terry Allen. 2013. "Examining The Instrumental–Expressive Continuum Of Homicides." *Homicide Studies* 18(3):298-317.

- Grace-Martin, Karen. 2020. "Logistic Regression Models For Multinomial And Ordinal Variables - The Analysis Factor." *The Analysis Factor*.
- Loughran, Thomas A., Paternoster, Ray, Chalfin, Aaron. and Theodore Wilson. 2016. "Can Rational Choice Be Considered A General Theory of Crime? Evidence From Individual-Level Panel Data." *Criminology* 54(1):86-112.
- Mize, Krystal D., Viviana Shackelford, and Todd K. Shackelford. 2009. "Hands-on Killing of Intimate Partners as a Function of Sex and Relationship Status/State." *Journal of Family Violence* 24(7):463-470.
- Osho, Gbolahan S., and Fay Williams. 2013. "An Investigation Of Offender And Victim Relationships In A Sample Of Juvenile Homicides In California." *Journal of Sociological Research* 4(1).
- Pelletier, Karissa R., and Jesenia M. Pizarro. 2018. "Homicides And Weapons: Examining The Covariates Of Weapon Choice." *Homicide Studies* 23(1):41-63.
- Pizarro, Jesenia M., Karen Holt, and Karissa R. Pelletier. 2019. "An Examination of the Situated Transactions of Firearm Homicides." *Journal of Behavioral Medicine* 42(4):613–25.
- Pratt, Carter, and Kamala Deosaransingh. 1997. "Gender Differences In Homicide In Contra Costa County, California: 1982-1993." *American Journal of Preventive Medicine* 13(6):19-24.
- Quinet, Kenna, and Samuel Nunn. 2013. "Establishing The Victim–Offender Relationship Of Initially Unsolved Homicides." *Homicide Studies* 18(3):271-297.
- Soria, Miguel, Laura Pajon, Alba Company, and Mireia Lopez. 2016. "Expressive Partner Homicides In Spain: Differences According To Agressors Sex." *Journal of Forensic Medicine* 1(2).

United States. Federal Bureau of Investigation. 2017. "Table 8: Expanded Homicide Data, Murder Victims, 2013-2017." Crime in the United States.

United States. Federal Bureau of Investigation. 2016. "Uniform Crime Reporting Program Data: Supplementary Homicide Reports, United States, 2016" *Inter-university Consortium for Political and Social Research [distributor]*, 2018-06-28.

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