

EXAMINING THE EFFECTS OF DEMOGRAPHIC AND
SITUATIONAL FACTORS ON CHILDHOOD
ANIMAL CRUELTY
METHODS

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ABSTRACT

The current study seeks to replicate Hensley, Tallichet, and Dutkiewicz's (2012) research on childhood animal cruelty methods by surveying 257 inmates in a medium-security Southern prison. The purpose of the study was to examine the relationship between participants' demographic and situational factors and their individual methods of childhood animal cruelty. The study also investigated the predictive value of childhood animal cruelty methods on adult recurrent violent crimes. Logistic regression revealed that those who were younger when they first engaged in animal cruelty were more likely to drown, kick, burn, stab, and have sex with animals. Inmates who were not upset after committing animal cruelty were more likely to choke and have sex with animals. Those who grew up in rural areas and those who did not cover up their animal cruelty acts were more likely to shoot animals. Those who committed recurrent acts of childhood animal cruelty were more likely to stab animals. Those who were mentally abused were more likely to choke and stab animals. Non-whites were more likely to have sex with and burn animals. The only method that predicted adult recurrent violent crimes was stabbing animals.

DEDICATION

This work is dedicated to Carl Grimes, my grandfather, without whom graduate school may not have been possible. I could never repay the amount of support he has given me, throughout graduate school and my entire life, and I will always be grateful for it.

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CHAPTER I

INTRODUCTION

The general public has expressed a growing concern involving the relationship between acts of childhood animal cruelty and later violence against humans. Groups such as the National Link Coalition (NLC) have been formed specifically to raise awareness of the relationships between animal cruelty, interpersonal violence, family violence, domestic violence, and child abuse, while training social service professionals to recognize indicators and progressions of such relationships (nationallinkcoalition.org, 2013). According to the NLC, animal cruelty is only the ‘tip of the iceberg’ in violent behavior because it leads to other, more serious forms of violence later in life. Members of the NLC urge communities to become more involved in the recognition and prevention of these behaviors. Thus, the National Link Coalition and other groups similar to it have played a significant role in the collective worry surrounding childhood animal cruelty and later violence against humans (nationallinkcoalition.org, 2013).

As the public has begun to recognize childhood animal cruelty as a real problem, the media has used the attention to exacerbate this concern through several forms of media. The former television show *Dexter* depicts the life of a serial killer by flashing back to the main character’s childhood in order to show his beginnings as a criminal. In these flashbacks, some of his first violent episodes involve killing neighborhood pets, as well as his own dog. *Sons of Anarchy*, a television show that portrays the struggles of competing motorcycle gangs in

California, shows instances of animal cruelty as a warning or retaliation against rival gangs. Such attention has sparked a renewed interest in academia, and thus the relationship between childhood animal cruelty and later violence against humans is becoming a popular topic for current research.

Over the past five decades, researchers have examined the relationship between childhood animal cruelty and later violence against humans, beginning with MacDonald's triad of behaviors which he believed preceded and indicated aggression. These behaviors included enuresis beyond the age of five, fire setting, and animal cruelty (MacDonald, 1961). Although support for this triad has been inconsistent, MacDonald set the stage for research concerning childhood animal cruelty as a precursor for other forms of violence. Shortly after, Mead (1964) contended that childhood animal cruelty was a predictor for the development of an assaultive character disorder, and that treating children who commit early acts of animal cruelty may prevent episodes of violent crimes against humans later in life. From this initial research, the relationship between childhood animal cruelty and later interpersonal violence became a pertinent subject for research.

Subsequent studies concerning childhood animal cruelty and later violence against humans have left a number of questions unanswered by producing mostly inconsistent results due to a variety of methodological errors (Arluke, Levin, Luke, & Ascione, 1999; Arluke & Lockwood, 1997; Felthous, 1980; Felthous & Kellert, 1985; Flynn, 1999; Miller & Knutson, 1997). The most common issue in studies of animal abuse involves the methods by which researchers obtain information from participants. According to a meta-analysis by Felthous and Kellert (1987), out of 15 studies in the 1960s and 1970s that attempted to find a relationship

between childhood animal cruelty and later violence against humans, five found a significant relationship. The studies that found a significant relationship used direct interviews with participants, had concise definitions of variables, and analyzed recurrent acts of animal cruelty and adult violence. The studies that did not find a significant relationship had no direct contact with participants, had no definitions of variables, and only analyzed one act of animal cruelty and one act of adult violence.

Research following Felthous and Kellert (1987) has continued to be inconsistent. Some studies have found no relationship between childhood animal cruelty and later violence against humans while other studies have found moderate to strong relationships. Miller and Knutson (1997), for example, found no support for their hypothesis that convicted felons had more exposure to animal cruelty in childhood than non-incarcerated college students. In fact, they found that exposure to animal cruelty was a relatively common experience in both groups of participants, indicating that it had no significant effect on later criminality. Shortly after, Arluke et al. (1999) conducted a study to assess the violence graduation hypothesis, or the idea that people who begin to commit violent acts by abusing animals first will naturally move toward harming humans at some point in adulthood. They were unable to find support for the graduation hypothesis, concluding that animal abuse was not a definitive precursor to violence against humans. They found that perpetrators may commit both of these types of violence during a particular phase in their lives, but one does not necessarily predict or precede the other. This finding supports the deviance generalization hypothesis, or the assumption that there are several forms of antisocial behavior that could emerge at some point in an individual's life (Arluke et al., 1999).

Other studies from the past two decades have shown promising results concerning the relationship between childhood animal cruelty and later violence against humans. Flynn (1999) found that those who committed acts of animal abuse in childhood were more likely to develop approving attitudes of violence against women and children in families. He also found that having committed acts of animal abuse in childhood was a significant predictor of a positive attitude toward corporal punishment in adulthood.

Based on the mixed results of the studies mentioned above and others like them (Duncan & Miller, 2001; Flynn, 2011; Merz-Perez, Heide, & Silverman, 2001; Miller, 2001), researchers began to understand the complexity of the relationship between childhood animal cruelty and later violence against humans, and studies began to evolve to take this complexity into account.

Research in the last decade has made it apparent that more definitive results may be found concerning the relationship between childhood animal cruelty and later violence against humans if studies consider certain factors of each act of animal cruelty committed individually. Merz-Perez and Heide (2004) surveyed 45 violent offender and 45 nonviolent offenders from a maximum security prison to examine their histories of animal cruelty. They found that 56% of the violent offenders had committed acts of animal cruelty, while only 20% of the nonviolent offenders had done so. They also found that criminals were more likely to use forms of animal cruelty that were easily committed from a distance, and therefore involved no direct contact with the animal, such as shooting, forced fighting, and articulating fear. Several violent offenders reported instances of shooting animals, but they also reported instances of beating, kicking, or stomping, sexual acts, pouring chemical irritants on, dismembering, burning, and stabbing. These acts required physical contact, force, and/or torture. Based on these results, Merz-Perez and

Heide (2004) contended that there were four major factors of childhood animal cruelty which should be analyzed separately: the type of animal victimized, the motivation for committing an act of animal cruelty, the response the perpetrator had to his own act of animal abuse, and the method used to perpetrate the act of animal abuse.

The four factors involved in childhood animal cruelty may be better understood if they are examined individually. The methods employed by perpetrators of childhood animal cruelty are especially important because they may reflect predispositions for specific types of violence, and these methods are worthy of scrutiny separate from the other three factors. Tallichet, Hensley, and Singer (2005) explored the methods of animal cruelty used by perpetrators, along with certain demographic and situational characteristics surrounding each perpetrator. Although the results of this study did not indicate any significant relationships between methods of childhood animal cruelty and later violence against humans, Hensley, Tallichet, and Dutkiewicz replicated this study in 2012 in a different Southern state. The results reflected a few significant relationships, including that participants who grew up in urban areas were almost three times more likely to have kicked animals than to have committed any other type of animal cruelty, and those who covered up their acts of animal cruelty were more than 17 times more likely to have had sex with animals than to have used any other method of animal cruelty. They also found that one method of animal cruelty was a significant predictor for adult violence against humans: having sex with animals. Participants who reported having sex with animals were more likely to have committed recurrent violent crimes against humans in adulthood.

The current study seeks to replicate the study conducted by Hensley et al. (2012). Participants reported their individual methods of childhood animal cruelty, including drowning,

hitting/beating, shooting, kicking, choking, burning, stabbing, hitting with rocks, and having sex. The study will first examine demographic factors such as race, level of education, and childhood residence. It will also examine factors concerning abuse (i.e., whether participants were mentally and/or physically abused during their childhoods) along with situational factors surrounding the individual acts of cruelty, such as whether or not the abuse was committed alone, whether or not the perpetrator attempted to hide what he had done, whether or not the perpetrator was upset after committing animal cruelty, the frequency of animal abuse committed during adolescence, and the age of the perpetrator when he first committed an act of animal cruelty. Finally, the study will explore the effects of childhood animal cruelty methods on later recurrent interpersonal violence.

CHAPTER II

LITERATURE REVIEW

Animal cruelty has been a socially acceptable aspect of American culture since its beginning. From the influences of Descartes, who believed that humans were naturally greater than animals due to the ability to reason, to the foundations of the Judeo-Christian religion, which assert the dominion of man over any other species, the devaluation of animals in American culture has led to a normality in animal cruelty at both an individual and institutional level (Flynn 2012). Today, it is common to find mistreatment of animals in a variety of ways. Whether it is the slaughtering process in factory farms or the growing trend of dog fighting rings, animal cruelty continues to be a persistent aspect of American culture.

Since different forms of animal cruelty are prevalent in the United States, it seems as though an objective definition of animal cruelty is necessary for the purposes of research. Ascione (1993) defines animal cruelty as a “socially unacceptable behavior that intentionally causes unnecessary pain, suffering, and distress to and/or death of an animal” (p. 228), but not every researcher on this topic has used this definition. Vague and inconsistent definitions of animal cruelty have been the foundation of many inconclusive studies, and because of this, the subject of animal cruelty and its effects on other forms of criminality remain elusive. Even so, the general public has voiced a rising concern on the effects of childhood animal cruelty on violent crimes in adulthood, and although research on this topic has taken place over the last five

decades, flawed studies have prevented definitive answers from being found. From vague and inconsistent definitions of animal cruelty to severe methodological problems, some researchers have had a difficult time attempting to pinpoint a significant relationship between animal cruelty and later violence against humans.

Arluke and Lockwood (1997) attempted to identify a more specific definition of animal cruelty, seeking to find the line society draws on 'acceptable' forms of animal cruelty committed by children and adolescents. Specifically, they examined societal, law enforcement, and social service responses to acts of animal cruelty. They found that, oftentimes, children keep pets that they neglect or do not have the proper knowledge to take care of, and this neglect and ignorance may result in the death of that pet. Society and law enforcement do not take these acts of cruelty seriously, attributing them to ignorance, and the child is usually not penalized. Other acceptable forms of animal cruelty mentioned were shooting birds with BB guns with no intention of hunting them, allowing fish to suffocate on land after capturing them, and killing snakes with gardening equipment. Although this article presents no quantitative results, it implies that as long as society accepts certain methods of animal cruelty and not others, the definitions of animal cruelty will remain subjective and vague, and the relationship between childhood animal cruelty and violence against humans in adulthood will remain difficult to explain.

Studies in the past decade have begun to narrow the scope of their searches in an effort to break down this complicated relationship, and the most recent research on animal cruelty has been promising. Researchers are beginning to investigate the relationship between childhood animal cruelty and later violence against humans in adulthood more closely, specifically in relation to the individual methods of animal cruelty employed by the abusers, as well as aspects

of animal cruelty such as the perpetrator's motivation for committing these acts, demographics, social institutions, socialization, and other psychological consequences like conduct disorder (Flynn, 2012, pp. 4-10). By breaking down different aspects of animal cruelty offenses into individual variables, researchers are able to investigate the relationship between animal cruelty and later violence against humans at a more detailed level, pinpointing specific actions, motivations, thought processes, and demographic characteristics that may precede these crimes. Data from these studies will not only allow researchers to have a better understanding of the precursors and indicators of children who may commit acts animal cruelty, but they will also allow other criminal justice agents to be able to identify these indicators and prevent children from committing these acts, along with other violent crimes for which animal cruelty itself may be an indicator or precursor.

Arluke et al. (1999) stated that researchers must conceptualize a more objective definition of animal cruelty in studies on this subject, along with measures for recurrence of animal cruelty, motivations for committing these acts, and the methods that perpetrators employ to commit individual acts of animal cruelty in order to produce more consistent results. Studying these individual factors will allow researchers to identify whether or not each aspect of animal cruelty has a unique relationship with later violent crimes against humans. For example, perpetrators who set animals on fire versus those who shoot animals may be more likely to become violent criminals in adulthood.

Merz-Perez and Heide (2004) found that four major factors may be essential in determining whether or not there is a relationship between childhood and adolescent animal cruelty and later violence against humans: the methods of animal cruelty employed, the type of

animal victimized, motivations for committing the acts, and the perpetrator's response to his abuse. Distinguishing these factors in data collection and analysis has allowed researchers to take a closer look at the complicated relationship between childhood animal cruelty and later human violence, and has facilitated a better understanding of the many psychological and criminological predispositions to which animal abuse points. This potential relationship is only possible to find through breaking down acts of animal cruelty and analyzing the elements of these crimes separately. The current study analyzes different methods of childhood animal cruelty that perpetrators employ in order to gain a better understanding of how these methods influence childhood later violence against humans.

Early Research

The subject of animal cruelty became a topic of research when MacDonald (1961) introduced his triad of childhood behaviors that he believed were precursors to later aggression. These behaviors included fire setting, enuresis past the age of five, and animal cruelty. Support for this triad has been limited, but MacDonald's research set the stage for further studies of childhood animal cruelty.

With a sample of 346 males who had been admitted into a psychiatric facility, Felthous (1980) compared the histories of two separate groups of inmates in order to investigate the etiology of childhood animal cruelty and levels of general aggression. The participants were split into either an Animal Cruelty Group (n=18) or an Assaultive Group (n=53). Each participant was rated on an aggression scale from 1 (not aggressive) to 5 (most aggressive). Out of the 71 participants who were labeled as aggressive, a positive correlation was found between the

number of animal cruelty acts committed by each participant and levels of aggression.

Participants with higher levels of aggression were more likely to have committed more acts of animal cruelty than those participants who displayed lower levels of aggression. Acts of animal cruelty included hanging (n=4), setting on fire or lighting fireworks in rectums (n=8), and tying tails to a clothesline (n=3). Researchers also found instances of “limb amputation, decapitation, choking, brutal beatings, fracturing bones, and scalding with hot water” (p. 171). Although this study did not use methods of animal cruelty in its analysis, it formed a basis for other studies to delve deeper into the subject of animal cruelty and human violence by identifying a relationship between childhood acts of animal cruelty and general aggression.

Kellert and Felthous (1985) examined the relationship between childhood animal cruelty and later human aggression. They interviewed a sample of 152 males from several cities in Kansas and Connecticut and assigned them to four different labels. Thirty-two were labeled aggressive, 18 moderately aggressive, 50 nonaggressive, and 52 were labeled noncriminal. In addition to the main objective, they reported the individual methods of animal cruelty committed by each inmate. The most significant acts of animal cruelty found in this study were beating (n=18), shooting (n=14), stoning (n=11), and throwing from heights (n=10). Participants also reported instances of neck snapping, exploding in microwaves, trapping, dismembering, stabbing, burning or electrocuting, breaking bones, and forced fighting. Although the purpose of this study was to examine the relationship between childhood animal cruelty and later interpersonal aggression among criminals and noncriminals, as well as to investigate the motivations for committing animal cruelty, the identification of the methods of animal cruelty indicate that perpetrators of animal cruelty use a wide variety of methods, and such a variety may

indicate that perpetrators have different thought processes, motivations, and levels of aggression.

Miller and Knutson (1997) selected a sample of 314 male and female inmates from the Iowa Medical Classification Center, and placed them into four groups based on their crimes against humans: homicides, violent offenses, sex offenses, and other offenses. The purpose of this study was to examine the prevalence of animal cruelty among these four groups of offenders. They found that 212 of them had been exposed to at least one act of animal cruelty. They separated animal types into pets and strays and examined the methods of animal cruelty used by each participant in the study. Out of the 212 respondents who had been exposed to animal cruelty, several individual acts were analyzed and only recorded if the act of cruelty resulted in the victimized animals' deaths. These acts included poisoning by gas, drugs, or alcohol (n=17), hit or beat with fists or rocks (n=43), drowning (n=5), shooting (n=77), strangling or smothering (n=6), stabbing or poking with a sharp object (n=6), burning (n=5), throwing against a wall or object (n=9), blowing up with an explosive (n=7), accidental (n=16), and other (n=6).

In the same study, Miller and Knutson (1997) surveyed 308 undergraduate students at the University of Iowa on their experiences with animal cruelty in order to serve as a comparison for their group of incarcerated felons. They found that exposure to animal cruelty was fairly common in incarcerated and non-incarcerated groups, but most of the participants in the undergraduate student sample had only witnessed animal cruelty as opposed to committing it themselves. This study discussed several issues in defining animal cruelty in terms of methods that may be socially acceptable (i.e., spanking a dog) and methods that are unacceptable by societal standards (i.e., setting an animal on fire), so the results should be interpreted with caution.

Regardless, the differences that Miller and Knutson (1997) found between incarcerated

and non-incarcerated populations warrants further research of this comparison because they indicate that while experiencing animal cruelty may be fairly common among different populations, the experiences of incarcerated felons were much more likely to be through the direct abuse of an animal as opposed to only seeing someone else abuse an animal. The difference in animal cruelty experiences between incarcerated felons and non-incarcerated college students in this study points out the violent predispositions that the incarcerated felons may have had during childhood that led them to harm animals, and those predispositions allowed their violence to transition to humans in adulthood. This is potential evidence for the graduation hypothesis. Establishing this relationship is vital to the livelihood of research involving animal cruelty because it lays the foundation for more detailed studies to take place.

Arluke et al. (1999) examined the validity of the graduation hypothesis. They sampled 153 males and female participants by anonymously pulling their profiles from the Massachusetts Society for the Prevention of Cruelty to Animals from the years 1975 to 1986. All participants had committed at least one act of animal cruelty, defined in this study as ‘intentional physical harm,’ including methods of beating, stabbing, shooting, hanging, drowning, stoning, poisoning, burning, strangling, running over with a car, and throwing. The researchers found no significant support for the graduation hypothesis. In fact, they found that acts of childhood animal cruelty may be better explained by the deviance generalization hypothesis, or the idea that several forms of deviance, including as animal cruelty, may begin in childhood and lead to other forms of deviance, but there is no particular order in their occurrences.

By distributing a self-report questionnaire to 267 undergraduate psychology and sociology students at a public Southern university, Flynn (1999) examined the relationship

between childhood animal cruelty and later attitudes toward familial violence, specifically parents spanking children and husbands slapping wives. Although methods of animal cruelty were not a focus of this study, they were recorded in the results. In this sample, most of those who killed stray or wild animals (n=35) did so by shooting (n=22). The most common method of animal cruelty within the group who hurt or tortured an animal (n=18) was hitting, beating, kicking, or throwing against a wall (n=14). The researchers did not separate hitting, beating, kicking, or throwing against a wall into different categories. For the group of participants who had killed a pet (n=7), the most common methods were shooting (n=3) and stabbing, burning, exploding, or castrating (n=3). Once again, stabbing, burning, exploding, and castrating were included in one category. This study, like several previous studies of its kind, found fault in its definition of animal cruelty, noting acts of abuse that are socially acceptable (i.e., killing mice or snakes). Regardless, the researchers concluded that childhood animal abuse was a predictor of accepting attitudes toward corporal punishment in adulthood. A fine line exists between corporal punishment and physical abuse, and the fact that researchers found support for this relationship shows that there are several possible psychological repercussions from childhood animal cruelty and the topic should be explored in greater depth.

Specifying Research Variables

As animal cruelty research continued and developed, researchers began to explore more specific variables that may affect the relationship between childhood animal cruelty and later human violence, including individual methods the perpetrators employ during the commission of their crimes. Merz-Perez and Heide (2004) and Merz-Perez, Heide, and Silverman (2001) used

two instruments, the Survivors' Coping Strategies Survey (SCS) and the Children and Animals Assessment Instrument (CAAI), in order to determine the types of animal cruelty each participant committed and what type of animal each participant abused: pet, wild, farm, or stray. Their sample was a group of 45 violent and 45 nonviolent male offenders from a maximum-security prison in Florida. All data were gathered through face-to-face interviews with each participant. Their results showed that 56% of the violent offenders in their sample had committed acts of animal cruelty, while only 20% of the nonviolent offenders in their sample had done so.

Furthermore, this study found that there were key differences in the methods of animal cruelty used by the violent and nonviolent offenders in this sample. Nonviolent criminals were more likely to use forms of animal cruelty that were easily committed from a distance, and therefore involved no direct contact with the animal, such as shooting (n=6), forced fighting (n=3), and articulating fear (n=1). On the other hand, while several violent offenders reported instances of shooting animals (n=9), they also reported instances of beating, kicking, or stomping (n=5), sexual acts (n=3), pouring chemical irritants on (n=2), dismembering (n=2), burning (n=1), and stabbing (n=1). These acts required physical contact, force, and/or torture, and they indicate that more frequent physical acts of childhood animal cruelty may be precursors to interpersonal violence in adulthood.

DeGue and DiLillo (2008) used a sample of 860 college students from two private and one public university in the Midwest and West in order to investigate the relationship between childhood animal cruelty and family violence, specifically child maltreatment and domestic violence. Two hundred and ten participants were female and 650 were male. Participants indicated their experiences with animal cruelty on the Animal Violence Inventory, which

includes neglect in the forms of denial of food, water, and medical treatment, as well as excessive confinement and allowing an animal to live in filth. It also includes direct physical cruelty in the forms of beating, shooting, drowning, forced fighting, and engaging in sexual acts with an animal. The results indicated that while 31.1% of the sample reported having witnessed acts of animal cruelty, only 4.3%, or approximately 38 participants, had actually committed an act of animal cruelty directly. The most common forms of animal cruelty reported in this study were hitting, beating, and kicking. Males were found to be much more likely to commit animal cruelty than females. Their results indicated that childhood animal abuse may be a significant marker for family violence, which reiterates a pattern that several other studies have found- childhood animal cruelty tends to be the precursor to other forms of violence, not vice versa.

Tallichet et al. (2005) collected a sample of 261 male inmates from three prisons in a Southern state in order to further investigate individual methods used in the commission of childhood animal cruelty. This study sought to identify the relationship among demographic characteristics, certain situational factors, and methods of animal abuse among convicted offenders. The researchers also focused on the relationship between childhood animal cruelty and later violence toward humans. Almost half of the sample (n=112) had reported committing acts of animal cruelty during childhood. Among this group, the participants reported committing acts of shooting (n=72), hitting or kicking (n=50), choking (n=24), burning (n=17), drowning (n=16), and having sex with animals (n=16). The participants chose these acts from a list provided and were able to choose more than one method of childhood animal cruelty.

Logistic regression revealed that the most statistically salient variable in the six models (drowning, hitting/kicking, shooting, choking, burning, and having sex) was whether or not the

respondent had covered up the animal cruelty. Respondents who had hidden the animal cruelty were more likely to have had sex with animals, but were less likely to have shot animals. Those who had abused or killed animals alone were less likely to have had sex with animals. White respondents and those who had committed recurrent acts of animal cruelty were more likely to have shot animals. Lastly, respondents who were upset by their actions were less likely to have shot animals. Ordinary least squares regression revealed that neither individual nor collective methods of childhood animal cruelty were significant predictors for later violence against humans.

Hensley and Tallichet (2009) performed another study on the same sample of 261 inmates in order to examine the potential relationship between individual methods of animal cruelty used and the number of violent crimes committed toward humans in adulthood. With the same results listed above concerning the respondents' choices of individual animal cruelty methods in the 2005 study, Hensley and Tallichet (2009) used multiple regression analysis to find a significant positive relationship between the methods drowning and/or having sex with animals and the number of recurrent violent crimes those participants committed against humans in adulthood. These two acts of animal cruelty require a type of hands-on violence toward another species that appears to transition to humans in adulthood. A child who commits an act of animal cruelty that involves direct contact with the animal, such as drowning or having sex, may already have violent predispositions that will predict violent behaviors throughout the child's entire life, but a child who uses a more indirect form of cruelty, such as shooting, may already possess a different way of thinking from a child who uses direct force, and this way of thinking may be less prone to violence.

In 2012, Hensley et al. replicated the 2005 study, seeking to gain more insight into the relationship between childhood animal cruelty and violent crimes against humans in adulthood. The study also reexamined the relationship between demographic characteristics of each participant (race, level of education, and residence while growing up), situational factors (whether the abuse was committed alone, whether the abuser tried to conceal the act, and whether the abuser was upset by the act), the age of the abuser during the commission of his first act of animal cruelty, and the frequency of animal cruelty during childhood. Lastly, the study reanalyzed the relationship between methods of childhood animal cruelty (drowning, hitting/beating, shooting, kicking, choking, burning, stabbing, having sex with, starving/neglecting, and hitting with rocks) and later violent crimes against humans.

Using a sample of 180 male inmates from one medium- and one maximum security correctional facility in a Southern state, Hensley et al. (2012) found that out of the group of participants who reported having committed at least one act of animal cruelty during childhood (n=103), several different methods of animal cruelty were reported: drowning (n=18), hitting/beating (n=85), shooting (n=34), kicking (n=37), choking (n=18), burning (n=16), and having sex with (n=23).

Using logistic regression, they found that only seven of a possible 56 findings were statistically significant. The most statistically salient variable in the seven models was the number of times the respondents had hurt or killed animals as children. Inmates who reported recurrent childhood animal cruelty were more likely to have drowned, shot, kicked, or had sex with animals. Participants who grew up in urban areas were almost three times more likely to have kicked animals. Those who covered up their acts of animal cruelty were more than 17 times

more likely to have had sex with animals. Inmates who did not become upset after committing animal cruelty were more likely to have kicked animals. Least squares regression revealed that having sex with animals was the only method of animal cruelty that was a predictor for later violence against humans. Participants who reported having childhood sex with animals were more likely to have committed recurrent violent crimes against humans in adulthood.

Given the lack of research that focuses on methods of childhood animal cruelty, the current study was designed to replicate the Hensley et al. (2012) study in order to further bridge the gap in understanding of this controversial topic. Methods of childhood animal cruelty may indicate certain ways of thinking that predict later violence against humans, so this issue warrants more research. The current study will examine the following: methods of animal cruelty used by children and their relationship to the participants' demographics, including (a) race, level of education, and residential location during childhood; (b) whether the perpetrator was mentally and/or physically abused during childhood; (c) situational factors concerning the instances of cruelty, such as whether or not the abuse was committed alone, whether the perpetrator attempted to hide what he had done, whether the perpetrator was upset after committing animal cruelty, the age of the perpetrator when he first committed an act of animal cruelty, and the frequency of animal abuse committed during childhood. The study will also investigate the predictive value of childhood animal cruelty methods on later interpersonal violence.

The current study has been revised in a few key areas. First, the animal cruelty methods of stabbing and hitting with rocks were added to the analysis in order to further separate the individual instances of animal cruelty. The participants in this study were from a different Southern state than those in the previous studies. Researchers also added a survey question

regarding childhood mental and physical abuse in order to determine if these types of abuse have any relationship with the various methods of animal cruelty.

CHAPTER III

METHODOLOGY

Participants

In February 2010, all inmates housed in a medium -security Southern correctional facility for men were requested to participate in a study of childhood animal cruelty. Of the 2,315 inmates incarcerated in the facility, a total of 257 agreed to participate in the study, yielding a response rate of 11.1% (as each inmate received a questionnaire). Although this response rate appears low, most prison studies dealing with sensitive issues attract 25% or fewer respondents (Hensley et al., 2009; Tallichet & Hensley, 2004; Tourangeau, Rips, & Rasinski, 2000). After obtaining approval from the state department of corrections and the university's Institutional Review Board, researchers drove to the facility and delivered the questionnaires and informed consent forms. The informed consent stated that the questionnaires were confidential. In addition, the state department of corrections agreed not to open any of the surveys prior to them being returned.

Mail staff at the prison distributed self-administered questionnaires to each inmate. Inmates were informed that it would take approximately 20 minutes to complete the 26-item questionnaire. Inmates were asked to return their completed questionnaires and signed informed consent forms in a stamped, self-addressed envelope within one month of distribution. The

informed consent forms were immediately shredded after arrival. No incentives were given for completion of the survey. The researchers contacted the facility after the 30 day period to make sure all completed surveys had been mailed.

Measures

The primary goals of the present study were to investigate the demographic and situational correlates of childhood animal cruelty methods used by children and to examine the predictive value of animal cruelty methods on later recurrent adult violence. The variables were derived from previous studies that examined the link between childhood animal cruelty and adult violence (Ascione, Thompson, & Black, 1997; Boat, 1994; Hensley et al., 2012; Merz-Perez & Heide, 2004; Merz-Perez et al., 2001; Tallichet & Hensley, 2004; Tallichet et al., 2005).

It should be noted that animals were defined as "pet, stray, or farm" (with the inmate listing the type of animal hurt or killed for each category). Animal cruelty included any action where the respondent hurt or killed animals as children (other than for hunting). This is consistent with the most frequently used definition of animal cruelty by social scientists which states that animal cruelty is "socially unacceptable behavior that intentionally causes unnecessary pain, suffering, or distress to and/or death of an animal" (Ascione, 1993, p. 228). This definition is preferred because it omits behaviors that may be socially and culturally acceptable or condoned in other contexts, such as hunting. Respondents who reported killing animals for food were not considered animal abusers as this is socially condoned behavior.

Inmates were asked to indicate "what they did to hurt or kill animals" by circling each of the methods that were listed on the survey. These included: drowned, hit/beat, shot, kicked, choked, burned, stabbed, sex, and hit with rocks (Boat, 1994; Hensley et al., 2012; Tallichet et al., 2005). Each response for each method was coded so that 0's indicated that the inmate had not used that method and 1's indicated that the offender had used that method.

Inmates were also asked a series of questions regarding their commission of violent crimes. They included: 1) "Have you ever committed murder or attempted murder?"; 2) "Have you ever committed rape or attempted rape?"; 3) "Have you ever committed assault?"; and 4) "Have you ever committed robbery?" These questions were coded 0 = no and 1 = yes. They were asked how many times they had committed each of these crimes. To develop a cumulative score of recurrent violent crimes, we added the number of times each inmate had committed these crimes. The scores ranged from zero to 22 with an average of 3.57 times with a standard deviation of 4.84.

Demographic characteristics (race, educational level, and residence while growing up) were recorded from the survey and used as predictor variables. Respondents were also asked if they had been mentally abused as a child, if they had been physically abused as a child, if they had hurt or killed the animals alone, if they had covered up what they had done to the animals, and if hurting or killing the animals had upset them. Finally, inmates were asked how many times they had hurt or killed animals and how old they were when they first committed animal cruelty.

Data Analysis

In order to achieve the two main goals of the study, frequencies and percentages of inmates who committed childhood animal cruelty and their methods while engaging in these acts were first run. Secondly, zero-order correlations between the demographic and situational factors, as well as the methods used to engage in childhood animal cruelty were assessed. Correlations were examined because some of these variables were ordinal or interval in nature. Third, because one of the primary goals was to examine the effect that demographic and situational factors had on each of the methods used to commit animal cruelty, logistic regression was performed. The dependent variables for these models (each of the methods of animal cruelty) were dichotomous and the independent variables (the demographic and situational factors) were simultaneously entered into each model. Finally, ordinary least squares regression was calculated to determine both the individual and collective effects that the methods of animal cruelty had in predicting recurrent adult violent crimes.

CHAPTER IV

RESULTS

Of the 124 inmates who had engaged in animal cruelty, over 65% reported that they had shot animals. Approximately 47% had hit/beat animals, 43% had hit animals with rocks, and 40% had kicked animals (See Appendix A). Approximately 26% reported that they had either choked, burned, or engaged in sex with animals, while approximately 24% had stabbed and 23% had drowned animals. Respondents could select more than one method, resulting in a total cumulative percentage considerably higher than 100%.

Appendix B presents the zero-order correlation matrix between the demographic and situational factors, as well as the methods of animal cruelty. White respondents were more likely to have grown up in rural areas, but were less likely to commit recurrent childhood animal cruelty. Whites were also less likely to burn or have sex with animals. Those who grew up in rural areas were more likely to have shot animals.

Those who were mentally abused as children were more likely to have been physically abused as children and to engage in recurrent childhood animal cruelty. In addition, those who suffered mental abuse were more likely to hit/beat, kick, choke, stab, hit with rocks, and have sex with animals. Inmates who were physically abused as children were more likely to commit animal cruelty alone and to engage in repeated acts of childhood animal cruelty, but were less likely to be upset by their actions. In addition, those who suffered physical abuse were more

likely to hit/beat, choke, and have sex with animals.

Those respondents who were upset when they committed animal cruelty were more likely to be older when they first committed it, but less likely to repeatedly engage in it. Those who were not upset by their actions were more likely to drown, choke, burn, stab, starve/neglect, hit with rocks, and have sex with animals. Those respondents who engaged in recurrent childhood animal cruelty were more likely to be younger when they first committed it. They were also more likely to choke, stab, and have sex with animals. Those who first engaged in animal cruelty at a younger age were more likely to drown, hit/beat, kick, choke, burn, stab, have sex, and hit with rocks.

Those who drowned animals were more likely to engage in all other methods of animal cruelty (i.e., hit/beat, shoot, kick, choke, burn, stab, have sex, and hit with rocks.) Respondents who hit/beat were more likely to kick, choke, burn, stab, have sex, and hit with rocks. Those who shot animals were more likely to kick, burn, starve/neglect, and hit with rocks.

Those who kicked animals were more likely to choke, burn, stab, have sex, and hit with rocks.

Those who choked animals were more likely to burn, stab, starve/neglect, hit with rocks, and have sex with animals. Respondents who burned animals were more likely to stab, have sex, and hit with rocks. Participants who stabbed animals during their childhood were more likely to starve/neglect, have sex, and hit with rocks. Finally, those who had sex with animals were more likely to hit them with rocks.

In sum, most of 71 significant correlations discussed above were weak to moderate in strength (.17 - .49). However, four correlations were strong (.50 or higher). They included:

Inmates who were mentally abused during childhood were more likely to be physically abused

during childhood. Respondents who had choked animals during childhood were more likely to drown and stab them as well. Finally, inmates who had kicked animals during their childhood were also more likely to hit them with rocks.

Because the dependent variables were dichotomous, logistic regression analyses were performed to test what, if any, influence the demographic and situational variables had on each method of childhood animal cruelty (i.e., drowned, hit/beat, shot, kicked, choked, burned, stabbed, had sex, and hit with rocks). Two of the models- hit/beat and hit with rocks- were not significant, thus they were excluded from the table.

According to Appendix C, the most statistically salient variable in the seven remaining models was the age when respondents first hurt or killed animals as children. Inmates who were younger when they first engaged in childhood animal cruelty were more likely to have drowned, kicked, burned, stabbed, or had sex with animals. Those inmates who did not become upset after committing animal cruelty were more likely to have choked and had sex with animals. Those who grew up in rural areas and those who did not cover up their childhood animal cruelty were more likely to have shot them. Those who committed recurrent acts of childhood animal cruelty were more likely to have stabbed them. Respondents who were mentally abused as children were over 6 times more likely to have choked animals and over 4 times more likely to have stabbed them as compared to those who had not been mentally abused. Non-whites were over 3 times more likely to have burned animals and almost 3 times more likely to have sex with animals as compared to whites. The independent variables accounted for between 14% and 26% of the total variance in the seven significant models. Three of the seven significant models were weak (kicked, drowned, and shot) and four were moderate (burned, stabbed, choked, and sex with

animals).

Using ordinary least squares regression, we also investigated the predictive value of animal cruelty methods, both individually and collectively, on later recurrent violent crimes. According to Appendix D, only one individual method of childhood animal cruelty (stabbing) predicted later adult violence against humans. Thus, those inmates who reported stabbing animals as children were more likely to have engaged in recurrent violent interpersonal crimes as adults. Collectively, approximately 22% of the total variance in the model was explained by the nine methods of childhood animal cruelty.

CHAPTER V

DISCUSSION

Research concerning the relationship between acts of childhood animal cruelty and violence against humans in adulthood has been conducted for over five decades, producing a variety of data that has often led to more questions than answers (Arluke et al., 1999; Arluke & Lockwood, 1997; Felthous, 1980; Felthous & Kellert, 1985; Flynn, 1999; Miller & Knutson, 1997). More recent research has indicated that several factors involving acts of childhood animal cruelty must be considered in order to gain a more comprehensive understanding of its effects on later violent crime, including the type of animal victimized, the motivation for committing an act of animal cruelty, the response the perpetrator has to his own act of animal abuse, and the method used to perpetrate the act of animal abuse (Merz-Perez & Heide, 2004; Merz-Perez et al., 2001). Based on these findings, studies began to focus on these factors individually (Hensley et al., 2012; Hensley & Tallichet, 2009), allowing more insightful results to be produced.

The purpose of the current study was to replicate research conducted by Hensley et al. (2012), which investigated the relationship between demographic and situational factors and methods of animal cruelty. The study first examined demographic factors such as race, level of education, and childhood residence, along with situational factors, such as whether or not the abuse was committed alone, whether or not the perpetrator attempted to hide what he had done, whether or not the perpetrator was upset after committing animal cruelty, the frequency of animal

abuse committed during childhood, and the age of the perpetrator when he first committed an act of animal cruelty. Finally, the study explored the predictive effects of childhood animal cruelty methods on later interpersonal violence. This study also expanded upon previous research by examining factors concerning abuse (i.e., whether participants were mentally and/or physically abused during their childhoods) and by adding stabbing and hitting with rocks to the methods of animal cruelty.

The most common method of childhood animal cruelty reported by participants in this study was shooting animals. Participants used this method almost 20% more frequently than any of the others. The other most common forms of animal cruelty included hitting/beating, kicking, and hitting with rocks. The fact that shooting animals was by far the most common method of animal cruelty used reflects a cultural acceptance of hunting, even if that was not the intended purpose for shooting an animal. Although acts of hunting were excluded from this study, it seems as though shooting animals could be easily excused by the perpetrator or by witnesses through claiming that the perpetrator was hunting, making it a popular method of animal cruelty. Hitting/beating, kicking, and hitting with rocks may have been more common because they are considered to be 'lesser' forms of animal cruelty, being viewed as trivial or even necessary as a form of obedience training and/or punishment in certain circumstances. Drowning, choking, burning, stabbing, and having sex with animals are all far less culturally accepted forms of animal cruelty, and these methods occurred far less frequently within the sample. These methods of animal cruelty also require direct contact with an animal in order to commit them, reflecting a more deliberate and violent mindset than the more popular forms of animal cruelty. These findings do not seek to suggest that any form of animal cruelty is normal, but that society tends to

overlook certain methods of animal cruelty while taking notice of others, allowing the more common methods of animal cruelty to be committed with fewer repercussions.

Participants in this study who engaged in animal cruelty by drowning, kicking, burning, stabbing, or having sex with animals were more likely to be younger when they first committed animal cruelty. This finding indicates that if a child begins to abuse animals at a young age, then he may also begin to believe that these actions are a normal part of his life. This thought process may also allow a child to move from lesser or more socially acceptable forms of animal abuse (i.e., shooting, hitting/beating, kicking, and/or hitting with rocks) to more serious forms of animal abuse (i.e., drowning, choking, burning, stabbing, and/or having sex) over time without necessarily viewing his actions as inappropriate or wrong. Following a similar logic, participants who choked and/or had sex with animals were less likely to become upset after committing animal cruelty. Since these forms of animal cruelty are considered to be more serious, the finding that participants who committed these types of animal cruelty were less likely to be upset by their actions may indicate that these were not their first acts of animal cruelty, but that they started at a younger age and eventually graduated to these more violent forms of animal cruelty. By the time participants began using methods of animal cruelty such as choking or having sex, they may have rationalized their acts of animal abuse to the point that they felt no guilt or remorse at all.

Respondents who grew up in rural areas were more likely to have shot animals than to have engaged in any other form of animal cruelty. Those who grew up in rural areas were also less likely to cover up their actions. This finding may represent a difference in acceptance of this act between those who live in rural areas and those who live in urban areas. For example, someone who lived in an urban area would probably never pull out a gun and shoot an animal

running on the street or sidewalk, and even if he or she did so, there would most likely be repercussions because it would be a highly visible action and it could put other people in danger. On the other hand, someone who lives in a rural area may not hesitate to shoot an animal running near his residence, and there would most likely be no punishment. Shooting animals may be more socially acceptable in rural areas, or maybe these actions simply go unnoticed due to the lack of proximity between neighbors, but it seems logical that people who live in rural areas would be more likely to shoot animals and consequently to view this action as normal or appropriate.

Those who committed recurrent acts of animal cruelty were more likely to have stabbed animals. Stabbing is one of the more direct, hands-on methods of animal cruelty examined in this study (Tallichet & Hensley, 2008). As previously stated, this finding may indicate that perpetrators may start out with lesser forms of animal cruelty and eventually desensitize themselves, allowing them to move on to more serious animal cruelty methods such as stabbing. This is evidence of the foundation for the graduation hypothesis, which indicates that those who commit childhood animal cruelty eventually commit violent acts against humans (Merz-Perez & Heide, 2004).

Participants in this study who were mentally abused as children were more likely to have engaged in recurrent acts of animal cruelty, specifically choking and/or stabbing. Since those who were mentally abused engaged in a variety of animal cruelty methods, it seems as though these participants may have lost touch with the empathy associated with caring for animals due to mental abuse, making it easier to commit offenses such as animal abuse without remorse (Merz-Perez & Heide, 2004; Tallichet & Hensley, 2008). These participants may have also used animal

cruelty as an outlet for the mental abuse they endured themselves. This finding is extremely important, because it expresses the necessity of identifying whether a child is being mentally abused early in his life in order to prevent serious long term effects.

An interesting finding in the current study indicated that non-white participants were more likely to engage in methods of animal cruelty by having sex with animals. Non-whites were also more likely to commit acts of cruelty by burning animals. Previous research found that race was not a significant factor in determining a perpetrator's choice of animal cruelty methods, including having sex with and/or animals (Hensley et al., 2012; Hensley & Tallichet, 2009; Hensley, Tallichet, Dutkiewicz, 2010; Hensley, Tallichet, Singer, 2006). This finding seems misleading, because non-whites are more likely to live in urban areas (Blanchett, Klingner, & Harry, 2009; Tallichet et al., 2005) where blatant forms of animal cruelty such as having sex with or burning animals would be difficult to hide, but the sample from the current study comes from a mostly rural state with few metropolitan locations. This could have lead to an overrepresentation of non-whites who live in rural areas. Previous research found that those who live in rural areas were more likely to commit childhood animal cruelty in general (Merz-Perez & Heide, 2004; Merz-Perez et al., 2001; Tallichet et al., 2005), which may lead to other types of violent crime in adulthood, so an overrepresentation of incarcerated, rural non-whites in the current study may explain why this finding was the first of its kind.

The only method of animal cruelty that was found to predict later recurrent violence against humans was stabbing, which was also different from the Hensley et al. (2012) study. As previously stated, stabbing could be considered one of the more serious and least socially acceptable methods of animal cruelty in this study, so it could potentially be a final step taken

before graduating to violence against humans. Stabbing requires prolonged direct physical contact, and it is potentially an extremely slow and painful method to use against an animal to abuse and/or kill it, so this method reflects a serious lack of empathy and regard for the animal's life (Merz-Perez & Heide, 2004; Tallichet & Hensley, 2008). The painful response from the animal may even elicit a feeling of pleasure in the perpetrator, leaving him with a greater urge to harm or kill others (Hensley et al., 2012).

While early studies concerning childhood animal cruelty and later violence against humans have presented inconclusive results, more recent research has broken down several aspects of this complicated relationship in order to provide more insight, indicating that recurrent acts of childhood animal cruelty are indeed associated with later acts of violence against humans (Hensley et al., 2012; Hensley & Tallichet, 2009; Merz-Perez & Heide, 2004; Merz-Perez et al., 2001). At the very least, this study and other current research indicate that some individuals who commit recurrent acts of animal cruelty during childhood eventually channel their violence toward humans, which provides further support for the graduation hypothesis (Merz-Perez & Heide, 2004). This study in particular found that all participants engaged in childhood animal cruelty prior to interpersonal violence. Greater specificity concerning methods of childhood animal cruelty, as well as violence against humans in adulthood may help future researchers to better understand individual propensities toward certain types of animal cruelty and how they lead to specific types of crimes against humans. Future researchers should be sure to include a more detailed conceptualization of animal cruelty methods. For example, methods could include pouring chemicals on, skinning, and stomping, as well as an option for inmates to identify the specific crimes they have committed against humans.

While the current study focused on several variables concerning respondents who committed childhood animal cruelty, including demographics, situational factors, and instances of childhood mental/physical abuse committed against respondents, we found that certain situational factors and instances of mental/physical abuse were more significant in predicting methods of animal cruelty. This indicates that future researchers should focus on perpetrators' experiences leading up to the commission of animal cruelty, as well as the social context surrounding them, as opposed to environmental factors associated with the perpetrators.

Although the current study has presented significant results regarding the link between childhood animal cruelty methods and later violence against humans, it has several limitations to be considered for future research. First, this study relied on paper-and-pencil surveys to assess participants in order to obtain as much information as possible in a timely manner. Using written surveys not only excludes illiterate inmates, but it also forces researchers to rely on data that is entirely self-reported. The surveys were anonymous, so participants should not have had any motivation to lie about their experiences, but self-report techniques are always limited by inaccurate reporting. Also, although studies such as this which deal with sensitive topics typically yield low response rates, our response rate of 11.1% was very low for a survey-based study. This low response rate makes it difficult to generalize the results to populations outside of the sample. Future researchers may avoid these limitations by utilizing direct interview techniques, which provide more plentiful and specific information from participants.

More extensive studies which examine the relationship between childhood animal cruelty and later violence against humans may allow researchers to identify violent predispositions in early childhood in order to recommend educational and counseling techniques to prevent high-

risk children from committing violent and non-violent crimes in adolescence and adulthood, as well as to intervene with adolescents and adults who have followed a pattern of ascending violence. Ascione (2001) discusses the importance of reporting, assessment, prevention, and treatment for children and adolescents who are known to be involved with animal cruelty. This study found that many participants who committed recurrent acts of animal cruelty had been mentally abused, so reporting instances of childhood animal abuse to the police is imperative not only to reduce the likelihood of a child becoming violent toward humans in adulthood, but also to protect a child from his current unstable or abusive environment. Police departments should work in conjunction with social service agencies in order to create a partnership that focuses on identifying and taking action against issues such as childhood animal abuse. Early detection of animal cruelty is not only essential for preventing a child's deviant lifestyle from leading to serious criminal repercussions later in life, but it will also protect innocent animals from unnecessary suffering at the hands of humans.

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APPENDIX A
FREQUENCIES AND PERCENTAGES OF INMATES WHO
COMMITTED CHILDHOOD ANIMAL CRUELTY AND
THEIR METHODS WHILE ENGAGING
IN THESE ACTS

Frequency and Percentages of Inmates Who Committed Childhood Animal Cruelty
and Their Methods While Engaging in These Acts ($n = 124$)

Method	<i>n</i>	%
Drowned	28	22.6
Hit/Beat	58	46.8
Shot	81	65.3
Kicked	50	40.3
Choked	32	25.8
Burned	32	25.8
Stabbed	30	24.2
Sex	32	25.8
Hit with Rocks	53	42.7

APPENDIX B
ZERO ORDER CORRELATION MATRIX - DEMOGRAPHIC
AND SITUATIONAL FACTORS

Zero-Order Correlation Matrix - Demographic and Situational Factors

	X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	X ₇	X ₈	X ₉	X ₁₀	Y ₁	Y ₂	Y ₃	Y ₄	Y ₅	Y ₆	Y ₇	Y ₈
X ₂	-.03																	
X ₃	.22*	.10																
X ₄	-.06	-.05	-.06															
X ₅	-.07	-.10	-.05	.74*														
X ₆	-.01	-.01	.03	.11	.21*													
X ₇	.05	.00	-.03	.15	.12	.11												
X ₈	-.14	-.04	.16	-.14	-.22*	.05	.06											
X ₉	.20*	-.10	-.07	.21*	.28*	.04	.02	-.22*										
X ₁₀	-.08	.05	.02	-.17	-.16	-.08	-.12	.23*	-.30*									
Y ₁	.01	.03	-.01	.16	.17	.16	.13	-.20*	.18	-.27*								
Y ₂	-.07	-.04	-.07	.23*	.25*	.07	-.01	-.16	.15	-.26*	.34*							
Y ₃	-.00	-.10	-.28*	.03	.09	.08	-.16	-.07	.17	-.10	.19*	.11						
Y ₄	-.01	-.05	-.13	.18*	.16	.06	.01	-.16	.10	-.30*	.26*	.45	.18*					
Y ₅	.04	.03	-.04	.37*	.30*	.12	.04	-.29*	.29*	-.24*	.52*	.37*	.12	.34*				
Y ₆	.23*	.06	-.07	.15	.08	.03	-.00	-.29*	.15	-.31*	.30*	.22*	.20*	.23*	.37*			
Y ₇	.02	.06	-.04	.23*	.12	.09	-.02	-.23*	.31*	-.31*	.33*	.26*	.17	.27*	.53*	.36*		
Y ₈	.19*	-.10	-.11	.22*	.19*	.12	.12	-.29*	.26*	-.31*	.34*	.26*	.08	.23*	.45*	.33*	.40*	
Y ₉	-.01	-.16	-.10	.22*	.17	.13	.05	-.20*	.10	-.30*	.31*	.43*	.29*	.55*	.31*	.20*	.24*	.27*

*Denotes statistical significance at the .05 level.

Coding of Independent Variables: (X₁) Race (0 = White, 1 = non-White); (X₂) Education (0 = 8th grade or less, 1 = some high school, 2 = completed high school, 3 = some college, 4 = completed college); (X₃) Residence (0 = rural area; 1 = urban area); (X₄) Mental Abuse (0 = no, 1, yes); (X₅) Physical Abuse (0 = no, 1, yes); (X₆) Hurt or Kill Animals Alone (0 = no, 1 = yes); (X₇) Cover Up Hurting or Killing Animals (0 = no, 1, yes); (X₈) Committing Animal Cruelty Upset You (0 = no, 1 = yes); (X₉) Number of Times Hurt or Killed Animals (1 = once, 2 = twice, 3 = more than twice); (X₁₀) Age When First Hurt or Killed Animals (continuous variable).

Coding of Dependent Variables: (Y₁) Drowned (0 = No, 1 = Yes); (Y₂) Hit/Beat (0 = No, 1 = Yes); (Y₃) Shot (0 = No, 1 = Yes); (Y₄) Kicked (0 = No, 1 = Yes); (Y₅) Choked (0 = No, 1 = Yes); (Y₆) Burned (0 = No, 1 = Yes); (Y₇) Stabbed (0 = no, 1, yes); (Y₈) Sex (0 = No, 1 = Yes); (Y₉) Hit with Rocks.

APPENDIX C

SUMMARY OF LOGISTIC REGRESSION BETA WEIGHTS

Summary of Logistic Regression Beta Weights

Variable	Drowned		Shot		Kicked		Choked		Burned		Stabbed		Sex	
	<i>B</i>	Odds Ratio	<i>B</i>	Odds Ratio	<i>B</i>	Odds Ratio	<i>B</i>	Odds Ratio	<i>B</i>	Odds Ratio	<i>B</i>	Odds Ratio	<i>B</i>	Odds Ratio
X ₁	-1.43	.87	.08	1.08	-.01	.99	.03	1.03	1.24	3.45*	-.23	.80	1.06	2.88*
X ₂	.05	1.05	-.09	.91	-.05	.95	.13	1.13	.12	1.12	.18	1.19	-.22	.80
X ₃	.20	1.22	-1.45	.23*	-.55	.58	.07	1.08	-.27	.76	.11	1.12	-.41	.67
X ₄	.34	1.41	-.52	.60	.34	1.40	1.88	6.56*	.80	2.23	1.45	4.27*	.71	2.03
X ₅	-.13	.88	.87	2.39	.32	1.38	-.20	.82	-.49	.61	-1.22	.29	-.10	.91
X ₆	.97	2.64	.38	1.46	.18	1.20	.52	1.69	.25	1.28	.53	1.69	.75	2.11
X ₇	.70	2.01	-1.02	.36*	-.21	.81	-.05	.95	-.16	.85	-.24	.79	.55	1.74
X ₈	-1.03	.36	.24	1.28	-.31	.73	-1.32	.27*	-1.39	.25*	-.97	.38	-1.51	.22*
X ₉	.03	1.03	.07	1.07	-.02	.98	.07	1.07	-.01	.99	.12	1.12*	.02	1.02
X ₁₀	-.17	.84*	-.03	.97	-.14	.87*	-.08	.92	-.23	.80*	-.21	.81*	-.24	.79*
Pseudo R ²	.16		.16		.14		.24		.23		.24		.26	

*Denotes statistical significance at the .05 level.

Coding of Independent Variables: (X₁) Race (0 = White, 1 = non-White); (X₂) Education (0 = 8th grade or less, 1 = some high school, 2 = completed high school, 3 = some college, 4 = completed college); (X₃) Residence (0 = rural area; 1 = urban area); (X₄) Mental Abuse (0 = no, 1, yes); (X₅) Physical Abuse (0 = no, 1, yes); (X₆) Hurt or Kill Animals Alone (0 = no, 1 = yes); (X₇) Cover Up Hurting or Killing Animals (0 = no, 1, yes); (X₈) Committing Animal Cruelty Upset You (0 = no, 1 = yes); (X₉) Number of Times Hurt or Killed Animals; (X₁₀) Age When First Hurt or Killed Animals (continuous variable).

Coding of Dependent Variables: Drowned (0 = No, 1 = Yes); Shot (0 = No, 1 = Yes); Kicked (0 = No, 1 = Yes); Choked (0 = No, 1 = Yes); Burned (0 = No, 1 = Yes); Stabbed (0 = no, 1, yes); Sex (0 = No, 1 = Yes).

APPENDIX D
OLS REGRESSION SOLUTIONS PREDICTING RECURRENT
VIOLENT CRIMES

OLS Regression Solutions Predicting Recurrent Violent Crimes

	<i>b</i>	<i>S.E.</i>	β
Drowned	-.13	1.36	-.01
Hit/Beat	-.02	1.12	-.01
Shot	.46	1.04	.04
Kicked	-1.85	1.20	-.16
Choked	.89	1.46	.07
Burned	1.33	1.20	.10
Stabbed	5.15	1.33	.38*
Sex	1.58	1.25	.12
Hit with Rocks	.78	1.21	.07
Adj. R^2		.22	
<i>F</i> value		4.74	
Significance		.00	

*Denotes statistical significance at the .05 level.

Coding of Independent Variables: (X₁) Drowned (0 = No, 1 = Yes); (X₂) Hit/Beat (0 = No, 1 = Yes); (X₃) Shot (0 = No, 1 = Yes); (X₄) Kicked (0 = No, 1 = Yes); (X₅) Choked (0 = No, 1 = Yes); (X₆) Burned (0 = No, 1 = Yes); (X₇) Stabbed (0 = no, 1, yes); (X₈) Sex (0 = No, 1 = Yes); (X₉) Hit with Rocks.

APPENDIX E
IRB LETTER OF APPROVAL

MEMORANDUM

TO: Ms. Mackenzie Grimes
Dr. Chris Hensley **IRB # 13-140**

FROM: Lindsay Pardue, Director of Research Integrity
Dr. Bart Weathington, IRB Committee Chair

DATE: October 1, 2013

SUBJECT: IRB #13-140: The Link between Childhood Animal Cruelty Methods and Interpersonal Violence in Adulthood

The IRB Committee Chair has reviewed and approved your application and assigned you the IRB number listed above. You must include the following approval statement on research materials seen by participants and used in research reports:

The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) has approved this research project # 13-140.

Since your project has been deemed exempt, there is no further action needed on this proposal unless there is a significant change in the project that would require a new review. Changes that affect risk to human subjects would necessitate a new application to the IRB committee immediately.

Please remember to contact the IRB Committee immediately and submit a new project proposal for review if significant changes occur in your research design or in any instruments used in conducting the study. You should also contact the IRB Committee immediately if you encounter any adverse effects during your project that pose a risk to your subjects.

For any additional information, please consult our web page <http://www.utc.edu/irb> or email us at: instrb@utc.edu.

Best wishes for a successful research project

APPENDIX F
QUESTIONNAIRE

I would like to begin by asking you several background questions. Please circle or fill in the best response for each question. Please do not put your name or other identifiers on this survey. After you complete the survey, return it in the stamped, self-addressed envelope.

1. How old are you? _____

2. How do you describe yourself?

- | | |
|---------------------------|------------------|
| 1. White | 3. Hispanic |
| 2. African American/Black | 4. Other (_____) |

3. What is the highest level of schooling you have completed?

- | | | |
|----------------------------------|--------------------------|----------------------|
| 1. 8 th grade or less | 3. Completed high school | 5. Completed college |
| 2. Some high school | 4. Some college | |

4. Where did you grow up?

- | | |
|---------------------------------|-----------------------------|
| 1. Rural area (small town/farm) | 2. Urban area (city/suburb) |
|---------------------------------|-----------------------------|

5. Were you ever mentally abused as a child? 1. Yes 2. No

6. Were you ever physically abused as a child? 1. Yes 2. No

7. Have you ever committed murder or attempted murder? 1. Yes 2. No

If yes, at what age did you first commit murder? _____ How many times? ____

8. Have you ever committed rape or attempted rape? 1. Yes 2. No

If yes, at what age did you first commit rape? _____ How many times? ____

9. Have you ever committed assault? 1. Yes 2. No

If yes, at what age did you first commit assault? _____ How many times? ____

10. Have you ever committed robbery? 1. Yes 2. No

If yes, at what age did you first commit robbery? _____ How many times? ____

The Following Questions DO NOT Relate to Hunting or Accidents:

11. Have you seen anyone hurt or kill an animal? 1. Yes 2. No

12. How old were you when you first saw someone hurt or kill an animal? _____

OVER PLEASE

The Following Questions DO NOT Relate to Hunting or Accidents:

13. How many times during your childhood did you see someone hurt or kill an animal? _____

14. Who have you seen hurt or kill an animal during your childhood? (Circle all that apply)

- | | | |
|-------------------|------------------------|-------------|
| 1. Parent | 3. Other family member | 5. Neighbor |
| 2. Brother/sister | 4. Friend | 6. Stranger |

15. Did you or your family have a pet while growing up? 1. Yes 2. No

16. Have you hurt or killed animals? 1. Yes 2. No

17. How many times have you hurt or killed animals? _____

18. How old were you the first time you hurt or killed an animal? _____

19. How old were you when you hurt or killed an animal the last time? _____

20. What animals have you hurt or killed?

- Pet animals (what kind) _____
Stray animals (what kind) _____
Farm animals (what kind) _____

21. How did you hurt or kill the animals? (Circle all that apply)

- | | | |
|-------------|--------------------|----------------------|
| 1. Drowned | 5. Choked | 9. Starved/neglected |
| 2. Hit/beat | 6. Burned | 10. Hit with rocks |
| 3. Shot | 7. Stabbed | 11. Other _____ |
| 4. Kicked | 8. Had sex with it | |

22. Why did you hurt or kill the animals? (Circle all that apply)

- | | |
|------------------------|---------------------------------------|
| 1. For fun | 4. Because you saw someone else do it |
| 2. Out of anger | 5. Other reason _____ |
| 3. Hate for the animal | |

23. Did you hurt or kill the animals alone? 1. Yes 2. No

24. Did you try to cover up what you did to the animals? 1. Yes 2. No

25. Did hurting or killing the animals upset you when it occurred? 1. Yes 2. No

26. Does it upset you today that you hurt or killed animals before? 1. Yes 2. No

THANK YOU FOR YOUR PARTICIPATION

VITA

Mackenzie Grimes was born in Hermitage, TN, to the parents of Jimmy and Penny Grimes. She is the older of two siblings, including one younger sister. She attended Nolensville Elementary and Woodland Middle, eventually moving on to Ravenwood High School. After graduation, Mackenzie attended The University of Tennessee at Chattanooga where she majored in Psychology. With a potential interest in law school, she took several upper level Criminal Justice elective classes, which sparked an interest in pursuing a graduate degree in Criminal Justice. Upon completing the Bachelors of Science program in May 2012, she enrolled in the Master of Science in Criminal Justice program at The University of Tennessee at Chattanooga and obtained a full-time graduate assistantship through the department. Mackenzie graduated from the program in May 2014, and plans to eventually pursue a degree in Mental Health Counseling.