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The Risk of Protection: Examining the Contextual Effects of Child Protective Services on Child Maltreatment Fatalities in the U.S.

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THE RISK OF PROTECTION: EXAMINING THE CONTEXTUAL EFFECTS OF CHILD PROTECTIVE SERVICES ON CHILD MALTREATMENT FATALITIES IN THE U.S.

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ABSTRACT

Much research has been done in the field of child homicide. While child homicide is a statistically rare event, it is especially pervasive in the United States. A subsection of research in the child homicide literature is the topic of child maltreatment fatalities, defined as when a child is killed through the means of maltreatment, such as physical abuse or neglect. What has been less so researched, however, is the combination of factors that can affect a child's fatality risk. The current study seeks to expand on the previous research using the 2019 Child File of the National Child Abuse and Neglect Data Set (NCANDS) and Conjunctive Analysis of Case Configurations (CACC), an analytic strategy that can assess contextual variability. The results of this research support the finding in the literature that young children are at significant risk for a child maltreatment fatality, and the most lethal combination of factors is a young white male child in a household without unrelated adults or reports of domestic violence but where there is a history of prior contact with CPS and parental substance abuse. Informing child protective service workers and other stakeholders of the elevated risk produced by this grouping of factors could decrease the amount of child maltreatment fatalities.

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CHAPTER 1

INTRODUCTION

In the United States, more than one thousand children between the ages of zero and nine are victims of homicide per year[1] (Douglas and Vanderminden 2014). More than 80 percent of these deaths are filicides, in which the killing was perpetrated by parents acting alone, together, or with other individuals. Filicides that result from ongoing neglect or physical abuse that escalated out of control rather than purposeful killings, can increase the likelihood for intervention before it leads to death (Ewing 1997; Sorenson et al. 1997; Alvarez and Bachman 2003). In 2020, 2.38 per 100,000 children died due to maltreatment (U.S. Department of Human Services 2022). Maltreatment, as defined by the Centers for Disease Control and Prevention (CDC), is when a child under the age of 18 experiences any type of abuse or neglect by a parent, caregiver, or another person in a custodial role, such as teachers, religious leaders, and coaches. While child maltreatment fatalities (CMFs) are statistically rare, the U.S. still experiences some of the highest rates of CMFs when compared to other countries (Pritchard and Butler 2003; Douglas 2015).

[1] By its definition, the term "homicide" requires two living humans, meaning it does not include abortions, the killing of unborn fetuses, or stillborn babies (Bureau of Justice Statistics, n.d.). It also does not include child deaths due to natural causes or accidental deaths, unless the accidents were caused by negligence (Office Criminal Justice Plans and Analysis & National Institute of Justice, 1992). Some states have enacted "fetal homicide" flaws, which are laws that serve as a sentence enhancement for offenders who kill pregnant women (i.e., by killing the mother, the offender effectively kills the fetus, and the law serves to hold the perpetrator accountable for the death of both the pregnant woman and her unborn fetus) (National Conference of Legislatures, 2018). All statistics and research presented in this paper use the definition of child homicide above unless specifically stated otherwise.

Communities and society tend to have strong reactions to child homicides in general, but these reactions become even stronger when the homicide is committed by the parent(s) of the child(ren) because parents are supposed to protect and care for their children, making filicide – the act of a killing one's own child (West 2007; Putkonen et al. 2016) – be perceived as even more egregious, causing these perpetrators to be seen as complete "monsters." Not only are neglectful and/or abusive parents committing a crime, but they are not fulfilling their role as a proper guardian and caretaker. High profile cases of parents (especially cases of mothers, such as Casey Anthony, Andrea Yates, and Susan Smith) suspected of killing their children have streamlined the topic of filicide into the mainstream media and public discourse. Historically, a focus of the discourse around filicides was on what was wrong with the parents and questions of how they could do such a thing. In 2013, however, public discourse shifted to the shortcomings within Child Protective Services (CPS) investigations of alleged maltreatment and subsequent abuse. It is this shift that inspired this research to look deeper into the relationship between CPS and child maltreatment fatalities. The primary objective of this thesis is to analyze what combination of factors can increase or decrease a child's maltreatment fatality risk.

The catalyst for this shift in public discourse around filicides was a particularly heinous case of repeated child maltreatment in Los Angeles, California, that culminated in the death of a seven-year-old boy. The victim, Gabriel Fernandez, resided with his biological mother, her boyfriend, and two siblings. Despite repeated allegations of child abuse and several CPS investigations, Gabriel was not removed from the home. Gabriel's death led to several protests in California from June to September 2013, calling for the reform of CPS in Los Angeles County to prevent further deaths due to child maltreatment

(Goff 2017). In the summer of 2020, the streaming platform Netflix released a docuseries titled, *The Trials of Gabriel Fernandez*. This docuseries provided detailed accounts of the events leading up to Gabriel's death and particularly the actions and inactions of the CPS workers investigating allegations of child maltreatment, bringing renewed national attention to the topic. Gabriel's case was especially noteworthy due to this being the first time that criminal charges have ever been brought against child protective service workers, therefore holding them criminally culpable, and these charges indicated that society and the legal system saw these workers as active contributors to his death (Hinkamp 2021). The workers were charged with child abuse and falsifying public records (ABC7.com). Following Gabriel's death, two more notable cases in California occurred: Anthony Avalos in 2018, and Noah Cuatro in 2019. Both boys had contact with CPS prior to their deaths and died in their homes while residing with at least one biological parent – just like Gabriel (thetab.com). Cases such as these brought renewed attention to the fatal mistakes that systems charged with protecting children and helping families can, and sometimes do, make.

While CPS workers are trained to follow a specific course of action when investigating allegations of child maltreatment, cases can fall through the cracks. Lachman and Bernard (2006) discuss a "swiss-cheese" model in their article: if the holes are not replaced with solid defenses, then system failures will continue to occur. When considering concerns among CPS workers, they reported being worried that a child would die during their caseloads (Douglas 2012). They also noted that, while they did assess for risk, they also wanted additional training. In Douglas' (2012) sample, 72.8% of participants did receive training about risk factors for CMFs, however, their knowledge

base varied. Workers reported that they were most knowledgeable about risk factors concerning a child's age, the mental health of the parent(s), and the relationship of the parent and child. Larger gaps of knowledge about perpetrator relationships with victims and environmental/household risk factors were also present (Douglas 2012). By filling these gaps of knowledge and offering additional training, perhaps CPS can move towards filling more holes in their defense and thus, save the lives of more children.

My study will contribute to our understanding of the problem of child maltreatment homicides of children who have had contact with CPS by using Conjunctive Analysis of Case Configurations (CACC), an innovative analytic strategy put forth by Miethe and colleagues in 2008, to observe what combinations of factors can increase or decrease a child's maltreatment fatality risk. When discussing risk factors, however, it is important to note that they are not deterministic of fatal outcomes. These factors can inform CPS workers on how to differentiate between potentially more lethal and non-lethal cases and help overburdened CPS workers appropriately manage their caseloads. Additionally, this study can illustrate the importance of CPS workers to use empirically based tools to inform their practices. CACC is an effective analytic strategy for this study due to its ability to shift the analysis from a variable-centered approach to a case-centered approach and attempts to quantify qualitative differences in cases in a systematic way (Miethe et al. 2008).

With the severe shortage of CPS workers in our post-Covid world, research in this area is more important than ever. Prior to Covid, CPS workers were already overworked and under-resourced, however, the shutdowns from the Covid-19 pandemic exacerbated the issue. In their article researching the impact that the Covid-19 pandemic had on CPS

workers and administrators, Renov et al. (2021) found that these service workers experienced more burnout and increased challenges to interact with families, including having trouble obtaining personal protective equipment (PPE) so they could still conduct home visits, when necessary, during the pandemic. While they found that there were advantages to working remotely during the pandemic, it also came with many challenges, such as placing children in foster homes that needed protection and keeping themselves safe from Covid (Renov et al. 2021). According to a report that was published in 2021 by the Pennsylvania Council of Children, Youth and Family Services (PCCYFS), the pandemic continues to create a shortage issue today. While being understaffed is not a new issue in the child welfare field, it is near crisis levels now. As a result of the stress of the pandemic combined with the already stressful job of working in child welfare, many CPS workers left the field to pursue safer, less stressful, higher paying, and more flexible jobs (Pennsylvania Council of Children, Youth and Family Services 2021). While the shutdowns from the pandemic are over, the consequences still affect the child welfare system and, in turn, the children who are in most need of help. Therefore, research on child maltreatment is more important now than ever.

The remainder of this thesis proceeds as follows: the theoretical framework of this thesis will be discussed. I will then outline the existing literature on the victim and offender characteristics and family/parental risk and protective factors of lethal child maltreatment, as well as the system failures that contribute to lethal child maltreatment. Next, the methodology for carrying out this research will be described. The analytic approach of Conjunctive Analysis of Case Configurations will be useful to test my thesis due to its ability to implement a holistic approach and consider multiple factors at once.

A discussion describing the data source and sample, and conceptualization and operationalization of key variables will follow. Finally, the thesis will conclude with its results and discussion sections, emphasizing key findings and their implications.

CHAPTER 2

THEORETICAL FRAMEWORK

Child Protective Services is the primary agency responsible for investigating reported allegations of child maltreatment (Child Welfare Gateway, n.d.). In addition to investigating prior reports of alleged child maltreatment, CPS is also the social services agency responsible for conducting ongoing assessments of the child's safety and well-being if they remained in the home. Further, CPS provides intervention and treatment services to families under their supervision (Child Welfare Information Gateway, n.d.). While there are federal laws to protect and regulate children's services, states vary in the specific laws and regulations that guide the state agency responsible for the welfare of children, which may go by various names (Child Welfare Information Gateway, n.d.). The typical stages that CPS caseworkers follow are shown in Figure 1. CPS caseworkers primarily become aware of alleged maltreatment through reports from those in contact with the child. Some reports are received from mandated reporters, such as medical personnel, child educators, mental health professionals, and law enforcement, but private citizens may also contact their local CPS agency to make a report (Capacity Building Center for States 2018). Once a case is assigned to the CPS worker, they conduct an initial investigation of the alleged abuse. Although it varies by state, generally, CPS agencies have somewhere between 30 to 90 days to complete an initial investigation (DePanfilis and Salus 2003). If initial investigations reveal the allegations are unfounded, the child has been removed from the home, or the CPS worker no longer believes the

child is at risk; they can recommend the case be closed (U.S. Department of Health and Human Services 2003).

Research shows when a CMF occurs, Child Protective Services often has a prior investigation history of child abuse allegations within the family (Lachman and Bernard 2006; Douglas 2013; Douglas 2016; Douglas 2018; Garcia et al. 2022). CPS workers are notoriously overworked and under resourced. Based off the report from the Academy of Professional Excellence (2019), there have been recommendations that CPS workers should not have caseloads that exceed 12 to 15 active cases per worker per month, while others in the report recommend no more than 18 cases per worker. Unfortunately, caseloads tend to far exceed that number, with the average caseworker in the United States having 67 cases, according to *Child Protective Services Caseload Per Worker U.S. 2020, By State* (Statista Research Department 2022). The combination of being overworked and having limited resources for help can create a detrimental effect on how CPS workers perform their duties, simply because they are finding ways to cope in these adverse conditions. Michael Lipsky (1980) examines how these over-worked human service beureaucracies put policy into practice on the street – and the consequences of doing so.

Michael Lipsky, author of *Street-Level Bureaucracy: Dilemmas of the Individual in Public Services* (1980), examines how policy is translated into practice among public service agencies, such as schools, courts, and welfare agencies. Lipsky posits that, due to large caseloads, limited resources, and ambiguous agency goals, social service workers must cope by developing their own "street-level policies" – also known as the street-level bureaucracy framework - that may not necessarily align with agency policies and goals.

These street-level policies can, at best, allow social service workers to work with their caseloads, ". . . fairly, appropriately, and successfully" (pg. xii); at worst, clients are at the mercy of the social worker's, ". . . favoritism, stereotyping, and routinizing" (pg. xii). Obviously, social service workers who in engage in a form of mass processing of their cases do not set out to cause harm – it is rather an unfortunate side effect of coping with large caseloads and limited resources. Social service workers are able to use a large amount of discretion in their work, and this is due to the fact that they service human beings every single day. While agency policies are intended to be a guide, humans cannot be subject to rigid policies. Social service workers must use discretion every day in order to make case decisions, as well as manage their caseloads. Further, they are able to use this discretion with little oversight. This can be good and bad for those who receive social services – a social service worker's discretion can be guided by experience and intuition, but it also makes room for corruption and discriminatory actions. This discretion is what can cause such a disjuncture between official policies and street-level policy. Lipsky's goal is not to make excuses for these street-level bureaucracies in their deficits. Instead, he offers a framework through which to understand street level bureaucrats (SLBs) daily actions and decisions. After all, these are the individuals who work with the public every day and make the decisions that affect individuals seeking (or not seeking, in some cases) these services.

Lipsky's street-level bureaucracy framework serves as the theoretical framework for this thesis. It is not only important to consider the system failures that can lead to a child's fatality, but also the family/parental context that surrounds a child that CPS workers can overlook. A child's circumstances as whole must be taken into consideration

in order to appropriately respond. Thus, taking this holistic approach can further inform research and impact how CPS investigates child maltreatment allegations. This framework is particularly useful for this project because it can explain two things: 1) policies established by organizations are not always able to be translated into practice, especially for those who work with particularly volatile situations; and 2) why social service workers, such as CPS, deviate from their organization's policies while performing their duties. Lipsky's framework can further inform CPS to decrease caseloads while also expanding resources for workers

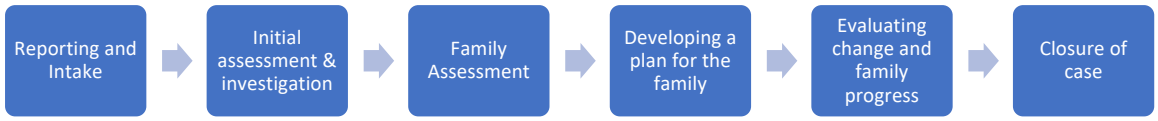

Figure 1.1: The Stages of the CPS Process

CHAPTER 3

LITERATURE REVIEW

The child homicide literature is vast, and as such, the literature covers a wide array of risk factors. Generally, the following are the risk factors for filicide most commonly discussed in the literature: an unrelated adult residing in the home, substance abuse and/or domestic violence in the home, a caregiver having previous criminal justice involvement, and prior CPS contact (especially within the preceding six months before death). Children that are under the age of 10, and Black or African American children have also been found to be at a higher risk for child homicide (with some conflicting findings). However, findings can vary greatly depending on the circumstances surrounding the child as a whole and this may explain some of the inconsistent patterns identified in the literature.

Victim Demographics

Victim Age

Several victim demographics are common in the child homicide literature. Primarily, child homicide research focuses on children below the age of 10 or under the age of five. This is due to young children having a significant risk for a child maltreatment fatality (Putnam-Hornstein et al. 2013). In their 2022 report, the CDC stated that children less than one year of age had higher homicide rates than children aged 1-14 (Wilson et al. 2022). This finding by the CDC supports past research on infanticide, or

the killing of a child less than one year of age (Kunz and Bahr 1996; Klevens and Leeb 2010; Dixon, Krienert, and Walsh 2013; Douglas 2013; Putnam-Hornstein et al. 2013; Douglas 2015). Stöckl et al. (2017) also found that the majority of homicides for children under one year are perpetrated by parents, and of that group, mothers are the most likely to commit infanticide. Additionally, they found that 100% of neonaticides, or the killing of a child within the first 24 hours of its life (Porter and Gavin 2010), are committed by parents, and mothers also commit the majority of neonaticides, whereas fathers commit very few (Stöckl et al. 2017).

Young children and older children have different homicide risks. For those below the age of 10, their homicide risk comes primarily from within the home. For children who are pre-teens and teens, their risk of being killed outside of the home increases, as examined through the lens of Routine Activities Theory by Boudreaux et al. (2001) in their article. As children grow older, they spend more time out of the home, so their likelihood of being killed by an acquaintance or stranger greater than being killed by a parent. Stöckl et al. (2017) found that, of adolescents aged 10-17, acquaintances were the most likely to be perpetrators of homicide (36.9%), followed by family members (17.5%). This article supports the overarching findings that parents are most likely the perpetrators of a child homicide for children under the age of 10.

There is also literature that examines the difference between infanticide, the killing of very young children and neonaticide (Porter and Gavin 2010). Typically, both fall under the umbrella of filicide. However, the patterns and circumstances under which they occur can differ dramatically. In their review of literature on the differences between infanticide and neonaticide, Porter and Gavin (2010) found that the most telling difference between

the two are that neonaticides are generally committed by women who often conceal their pregnancy, give birth away from a hospital, and then strangle, drown, or suffocate the baby and hide the corpse. Infanticide is generally committed by older, more mature women that use a variety of different violent methods to kill the child and who premeditate the crime. The motivation for these killings is typically seen as revenge against another adult, getting rid of an unwanted child, or child abuse/neglect spiraling out of control. It was also found by Porter and Gavin (2010) that women who commit neonaticide generally do not have a severe mental illness, whereas a small subset of women who commit infanticide do so during a psychotic episode. This means that, in general, women who kill their infants and children are of sound mind when committing these acts, whether they are premeditated or not.

Similar to homicide research findings, a research study by Connell et al. (2006) examined child, family, and case characteristics on the impact rates of re-referral to CPS over a 3 year period. Using data from the National Child Abuse and Neglect Data System (NCANDS) to examine cases from Rhode Island between 2001 and 2004, they found as children grew older, there was a significant decrease in re-referral. Infants (aged 0-1) were found to have the highest re-occurrence out of all other age groups in the sample. Overall, the authors found that age was significant for re-referral rates.

Victim Gender

For gender, previous research has found that male children tend to be victims of child homicide more so than females (Klevens and Leeb 2010; Douglas 2017; Batra et al. 2021), males have a higher rate of victimization, and a majority of victims from child maltreatment are male (Putnam-Hornstein et al. 2013; Douglas 2017). However, there has

been some inconsistency in the literature. Some studies state that gender differences aren't statistically significant (Lucas et al. 2002; Douglas 2015; Batra et al. 2021), while others state that gender differences can vary by age group, type of maltreatment death, whether the father or mother committed the homicide, or a combination of various factors (Stiffman et al. 2001; West et al. 2009; Dixon, Krienert, and Walsh 2013; Stöckl et al. 2017). For example, in her book, Emily Douglas (2017) states that victims of fatal neglect are more likely to be male. However, in their study, Stöckl et al. (2017) found that girls are more likely to be killed by their parents than boys, and boys were more likely to be killed by strangers than girls.

Victim Race

There have also been inconsistent findings regarding victim race in the child homicide literature. For one, Black children have been found to be overrepresented among child victims of maltreatment fatalities (Herman-Giddens et al. 2003; Schnitzer et al. 2008; Douglas 2017). However, some research suggests that social/economic stress due to poverty, racism, housing difficulties, and more contribute to an increased risk for maltreatment, leaving more minority children, such as Black children, to be the ones who suffer (Gelles 1973, 1996; Drake et al. 2011). Another perspective is that minority children are more likely to receive reports for child maltreatment, leading to more CPS involvement with minority families – another reason they could be overrepresented in the system (Drake et al. 2011). In their study of the relationship between race/ethnicity and case outcomes of child protective services, Lu et al. (2004) observed children ranging from the ages of 0 to 16, within the race/ethnic categories of white, Black, Hispanic, and Asian/other. Of those referred to CPS, there were three case outcomes observed in the

study: (1) the case was opened to services; (2) the child was placed out of the home and (3) the child was not reunified with their family. Compared to children of other racial and ethnic backgrounds, Black children were the most likely to receive each outcome. However, this is not merely a byproduct of minority status. For example, Hispanic children were more likely to not be reunified with their families than white children, but they were the least likely group to be placed out of the home compared to all other racial/ethnic groups.

To further test this, Lu et al. (2004) analyzed two sets of models for these same three outcomes. In the first model, race/ethnicity was used as the only predictor of case outcomes. In the second model, gender, age, and reason for referral were added as predictors. Among all three case outcomes, Black children were still the most represented. When adding gender, age, and reason for referral, Black children remained the most likely to receive each of the three outcomes compared to the other minority groups. However, when further broken down among case outcomes and gender, age, and reason for referral, the outcome varied by race/ethnicity. For the outcome of the case being opened to services, Black male and female children had the highest likelihood of their case being opened to services. For all age groups that were above the age of one year old (i.e., 2-4, 5-10, and 11-17), Black children were not the most likely. Regarding the reason for referral, Black children were first in the sexual abuse, physical abuse, and caretaker absence categories; they were second in the neglect category. Differences varied further when observing the other two case outcomes – placement out of the home and no reunification – but Black children were by and large the most likely to receive the three outcomes in most of the categories. The findings of Lu et al. (2004) do support the

claim that Black children are overrepresented in reporting rates, however, their study did not go into why this occurs.

In their study, Clifford-Wittekind et al. (2003) found that Black children who are under the age of five are at higher risk of lethality from maltreatment. Other studies have contradictory findings - that white children account for a higher percentage of children who are victims of homicide (Klevens and Leeb 2010; Batra, Baluski, and Berg 2021). In their Morbidity and Mortality Report from 2007, the CDC reported that, among infants that were less than a year old, Native Americans/Alaskan Natives and Black infants had higher injury deaths than other ethnic/racial groups. Among children aged 1-9 years, Native Americans/Alaskan Natives and Black children still had the highest rate of injury deaths. While these numbers are not broken down by offender (e.g., parent vs. non-parent), it is worthwhile to bear in mind that most child homicides are perpetrated by parents.

Offender Demographics

Offender Age

Research focusing on offender age is somewhat lacking in the filicide literature. In past decades, most research on offender age focused on young parents, especially underage mothers (Kinard and Klerman 1983; Wadsworth et al. 1984; Kinard and Reinhartz 1987). Carol Massat (1995) analyzed demographic data from the Department of Children and Family Services (DCFS) on parents who were indicated to have perpetrated child maltreatment in Illinois, including parents with children who were placed in out-of-home care (such as foster care). Primarily, Massat (1995) wanted to see if adolescent parents were overrepresented among maltreating parents.

The results indicated that, first, underage parents were less likely to be the head of household, and second, that adolescents were no more likely to perpetrate maltreatment than older parents. The notion that adolescent parents are more likely to maltreat their children comes from the idea that adolescents are less mature and underprepared for parenthood. Massat (1995) posits that more than just parent age is a predictor of child maltreatment. Lack of prenatal care, lack of maternal education, single-parent status, unshared responsibilities for childcare, and low socioeconomic status are all areas for which Massat (1995) urges for more focus of policy and practice.

In more recent research, Dixon et al. (2013) found that women offenders tend to be younger than male offenders – in their study, women offenders were mostly aged between 20 and 24, whereas male offenders were aged between 24 to 34. Mariano et al. (2014) used 32 years of data from the FBI's Supplementary Homicide Reports (SHR) of filicide arrests. They found that the mean age of all offenders was 32 years of age, with a mode of 22 years. Female offenders tended to be younger, with a mean age of 27. Male offenders had a mean age of 34. These findings steer away from the idea that adolescent parents are more at risk of perpetrating child maltreatment and support the notion that more than just offender age predicts perpetration. While older parents can be seen as more "mature" and "ready for parenthood," age does not change the surrounding risk factors for child maltreatment.

Offender Gender

Given the popularity of maternal-perpetrated cases such as Andrea Yates, Susan Smith, and Casey Anthony, filicide is commonly thought of as a crime by the mother.

However, research has found that mothers and fathers are almost equal in their likelihood to commit child homicide, though findings vary by context (Liem and Koenraadt 2008; Dixon, Krienert, and Walsh 2013; Clifford et al. 2017; Douglas 2017; Myers et al. 2020). In their study, Dixon, Krienert, and Walsh (2013) used 15 years of National Incident Based Reporting System (NIBRS) data to explore several demographics victim and offenders of filicide. For white female victims under the age of five, the perpetrator is most likely going to be the biological mother who is also white and under the age of 25. For white male victims under the age of five, they are most likely going to be victimized by the biological father who is aged 25 and over.

In Clifford et al.'s (2017) study, they also used police reports from NIBRS to examine the victim, offender, and contextual factors that lead to lethal outcomes for children who are newborns to the age of four. Results regarding offender characteristics show that offenders were most likely to be in their mid-20s and male offenders were more likely to commit violence against female victims. When examining the difference in correlates of lethal versus non-lethal child homicide, Clifford-Wittekind et al. (2003) found that lethality was greatly influenced by child age in combination with the sex of the offender. For children under the age of five years, boys were less likely to die if the offender was male. For children less than one year, a female offender increased lethality. It was also found that a female offender posed the greatest lethality risk if they were the child's biological mother or a stepparent.

Offender Race

Offender race tends to be the same as the race of the victim, as crime is usually intraracial. In Kunz and Bahr's (1996) study of parents who killed their children that

were under the age of 18, over half of the offenders were white, while 38% were Black. Mariano et al. (2014) found that most offenders were white, and this trend was consistent across the victim's age groups. Black offenders were the second most common group. Victim groups closely matched the demographics of the offender groups. Other offender race/ethnicity demographics were uncommon. Overall, the finding that crime in general is more likely to be intraracial is also observed in the child homicide literature.

Family/Parental Factors

A child's family context can have great impact on their lethality risk. Common family risk factors for child maltreatment fatality that are discussed in the literature are as follows: an unrelated adult residing in the home, substance abuse within the home, and the presence of domestic violence in the home (Schnitzer and Ewigman 2005; Douglas 2016; Garcia et al. 2022). Below each of these factors are discussed in depth.

Household Composition

There has been significant research on the risk of children living with an unrelated adult. Clifford-Wittekind et al. (2003) conducted a study using data from NIBRS to examine the difference in the correlates of lethal versus non-lethal violence against children. Through logistic regression, they found that children are most likely to be killed by a parent or stepparent. While household composition, such as when an unrelated adult resides in the home, has been found to impact a child's fatality risk, different living situations may increase the risk of fatality, while others may decrease the risk. For example, utilizing data from the Missouri Child Fatality Review Program of children under five years of age with fatal injuries inflicted by a parent or caregiver, Schnitzer and Ewigman (2005) found that children who resided in homes with an unrelated adult,

particularly the boyfriend of the child's mother, were at significant risk for injury-inflicted deaths, compared to children who lived with two biological parents or single-parent households.

The phenomenon of when stepparents kill or abuse their spouse's biological child/children is known as the Cinderella effect (Block and Kaplan 2022). In their study, Block and Kaplan used NIBRS data to observe cases of non-fatal child abuse from 1991 to 2019. Specifically, they observe the different rates at which biological, stepparents, and unmarried partners abuse children. The inclusion of unmarried partners is important because most research on the Cinderella effect focuses on stepparents in a marriage, however, a similar effect could be said for unmarried partners. Through logistic regression, the authors found that biological and stepparents are statistically similar in their likelihood of injuring the child in cases of abuse, whereas unmarried partners have a higher likelihood than biological parents of perpetrating abuse against the child. This finding partially supports the Cinderella effect. Daly and Wilson (1994) examined stepparent (particularly stepfathers) abuse of children less than five years of age in Canada and Britain. They found that, in addition to stepfathers being more likely than biological fathers to kill children, they were more likely to beat the children to death. Biological fathers were more likely to shoot or asphyxiate the child. These beatings seemed to stem from two primary scenarios: (1) that death was an accidental outcome of a prolonged series of beatings over time and, (2) that the death was a result of a single outburst of rage, such as a stepparent becoming irritated that a child would not stop crying. What led to death as the outcome was in part due to the degree of affection or

antipathy the particular caretaker had towards the child (e.g., if a caretaker had less affection for the child, they would be more likely to kill them).

Block and Kaplan (2022) cite two theories to explain the Cinderella effect: the evolutionary perspective (Daly and Wilson 2007) and stress theory (Giles-Sims and Finkelhor 1984). The evolutionary perspective posits that all living organisms biologically want to ensure the survival of their own genetic line. In that vein, stepparents are more unwilling to invest in the future and care of their non-biological children. When living in a home with both their biological children and stepchildren, stepparents are more likely to abuse the stepchildren (Hilton et al. 2015). This is because stepchildren are not part of their genetic line, and stepparents may feel as if there is a competition of resources between the stepchildren and their own biological children. In addition, the feelings of having an offspring in the household from a past relationship of their partner can incur feelings of jealousy, making abuse more likely for stepchildren.

The second theory, the stress theory, claims that stepfamilies are more likely to experience stress than biological-only families or single-parent households. This stress can also contribute to the presence of abuse and maltreatment within stepfamily households. One survey of Australian households found that stepfamilies were perceived as being more negative and stressful than biological families (Planitz and Feeney 2009). Due to this, stress theory posits that stepfamilies are more likely to experience abuse in their household in general.

Domestic Violence in the Household

Domestic violence and child maltreatment are often co-occurring incidents, and as such, children can be at risk of being killed in domestic homicide incidents (Edleson

1999; Jaffe and Joudis 2006). Children as victims of domestic homicide can occur for a variety of reasons. One reason is as a way a parent to get back at their former partner (Lawrence 2004). Often, men are the most likely perpetrators of domestic homicides and, while in most cases they only kill their partners, the child can be a secondary victim of intimate partner homicide (IPH) (Jaffe and Joudis 2006). In his research, Websdale (1999) examined 83 cases of domestic child homicide in Florida. In half of the cases, child abuse was accompanied by domestic violence between the parents. When looking at couples that had experienced a child homicide, almost half of them had a prior history of domestic violence, and 32% experienced domestic violence in conjunction with child maltreatment. Using Domestic Violence Death Review Committee (DVDRC) reports, Jaffe et al. (2011) found that in 6.8% of domestic homicides, children were also killed, indicating a lethality risk for children who are exposed to domestic violence in the home. Similarly, Adhia et al. (2019) used data from the National Violent Death Reporting System (NVDRS) to examine intimate partner violence (IPV) related child homicides. These child homicides were categorized into two types: Type 1 was when the perpetrator of the child homicide also kills or attempts to kill the intimate partner, and Type 2 was when intimate partner conflict (such as divorce, custody battle, or separation) precedes the child homicide. Of the data selected for their study from the NVDRS, 20.2% of child homicide victims were identified to be IPV-related. Of those victims, over half were killed in Type 1 incidents. Type 2 incidents were more likely than Type 1 to be homicide-suicides.

Domestic violence or IPV is an often-noted risk factor for lethal child maltreatment; however, in certain situations, it may also serve as a protective factor (e.g.,

Center for the Study of Social Policy 2018; Miyamoto et al. 2016; Ridings et al. 2017). Scholars have attributed this to an increased response to IPV by CPS workers and law enforcement agents (Miyamoto et al. 2016), and additional social support and family services provided to the IPV victims and their families (Ridings et al. 2017). Receiving social support encourages a victim to seek help from abusive situations, as well as help with dealing with stressors (Ridings et al. 2017; Center for the Study of Social Policy, n.d.). The broad term, "family services "refers to any services that provide basic needs to the family, and typically consist of food, shelter, medical benefits, employment, and even childcare (Ridings et al. 2017). Notably, home-based services have been found to significantly safeguard against both IPV and child maltreatment, compared to services received outside of the home. This finding by Ridings et al. (2017) is supported by further research on the effectiveness of home-based services (Guterman et al. 2013; Avellar and Supplee 2013; Center for the Study of Social Policy 2018). However, Guterman et al.'s (2013) study did note that the home-based services did not particularly decrease risk for child victims of neglect, but they did decrease the risk for physical abuse.

Substance Abuse in the Home

Parental and/or caregiver substance abuse has been discussed as a risk factor for filicide in the literature. In 2003, Farooque and Ernst examined records of filicide perpetrators that were seen over an eight-year period at the Middle Tennessee Mental Health Institute. Out of the 19 cases examined, 10 displayed substance abuse and/or dependence. Connell et al.'s (2006) study that examined CPS re-referral rates found that families that have a history of child welfare contact for alcohol or drug use increased the

likelihood for re-referrals. More recently, Garcia et al. (2022) found high rates of parental/caregiver substance abuse in their study. Utilizing state child welfare data on fatal and near-fatal care reports from 2017 and 2018, they used Conventional Content Analysis (CCA) to identify core theme and categories. Regarding substance abuse, 60% of child victims in their study resided with family or household members who had substance use history. Overall, these findings indicate that substance abuse/dependence can be a prevalent risk factor for child maltreatment and CPS workers should carefully vet families to uncover any possible substance abuse when investigating alleged child maltreatment. This can also indicate that substance abuse services should also be made to these families as soon as possible so that parents and caregivers can get the help they need.

Family/parental factors of lethal child maltreatment are important to discuss in this context because CPS workers are directly involved with the child's family when investigating alleged maltreatment, and therefore, they must be trained to recognize these particular risk factors, as they are the most consistent and dangerous for child fatality. And while CPS workers certainly do undergo training, it has been found through research that their training is not extensive enough.

System Factors

At its core, CPS' goal is to promote the safety and well-being of children through investigation and intervention in reported child abuse cases (Children's Bureau, n.d.; Child Welfare Information Gateway, n.d.). Unfortunately, system failures can occur, leaving children potentially vulnerable to further maltreatment. Prior CPS contact (defined as any history of contact a family has had with CPS services), lack of

appropriate observations of the child by CPS workers, and CPS workers taking the parent(s) word at face value are all risk factors that are associated with system failures (Sim 2015; Douglas 2016; Douglas 2017; Garcia et al. 2022). Below, I discuss the system failures that can lead to child fatality.

Prior CPS Contact

Across decades of research, it has been consistently found that children who have had prior contact with child welfare or social services have a much higher risk of being victims of a CMF (Douglas 2017). In the 1970s, Anderson et al. (1983) found that about 25% of children in Texas who died from abuse or neglect were previously known to CPS. Schnitzer and Ewigman (2008) found that 30% of children in Missouri who had died due to maltreatment has been in contact with CPS previously. For neglect-related deaths, Welch and Bonner (2013) found that 12% of children had been in contact with CPS within 3 months of their deaths. In Welch and Bonner's (2013) study on fatal and near-fatal child abuse and neglect, they found that 70% of cases with prior child welfare involvement had a record of substantiated maltreatment. Of the fatality cases in 2017, 91.4% had prior child welfare history with substantiated maltreatment. In the same year, 84.5% of the near-fatality cases had prior child welfare history with substantiated abuse. In 2018, it was 45.2% and 58.1%, respectively. While 2018 did show a decrease in the study, these high rates of previous contact with CPS are alarming. Prior contact could indicate that, when a family has a long history with CPS, the parent(s) or caregiver(s) can face many obstacles to safely raising their children and that the services that families are getting are unsuccessful in fixing the problems they are facing. The parent or caregiver may be unable to stick with the case plan they have been given by CPS and/or the court.

Observations of the Child by CPS Workers

Lack of appropriate observations of the child by CPS workers can increase the likelihood of child maltreatment fatalities. In her article, Janice Sim (2015) identifies two conditions that increase the risk of filicide. The first condition is a lack of appropriate and thorough observations of the child at risk by CPS workers. This could be caused by a child's silence or invisibility – and this could be literal or metaphorical. A child's silence could be the result of poor language skills, rendering the child unable to communicate effectively, or workers not talking with the child at all. Invisibility can be physical, such as a child being hidden away, or the child's presence has faded to the background of a family's activities. Lack of appropriate and thorough observations of the child at risk could look like a CPS worker not properly observing the child for injuries or other signs of emotional abuse or neglect. This lack of appropriate observations could indicate a lack of focus on the alleged child victim of maltreatment. A shift in this focus would create more attentive CPS workers and, hopefully, allow these workers to make appropriate case decisions.

CPS Worker Interactions with Parents

Another risk factor identified by Sim (2015) is when CPS workers take a parent's word at face value. This is known as *dysfunctional parent representations*, which is when a parent presents themselves as a loving and caring parent to those investigating alleged maltreatment. Dysfunctional parental representations can cause CPS workers to overlook unsatisfactory living conditions, injuries on the child, and even poor school attendance, another indicator of neglect (Civic Research Institute 2014). Sim (2015) proposes two ways to counteract this dysfunctional representation. First, she argues CPS workers need

to be skeptical of parent accounts. Without properly observing the child firsthand, CPS workers run the risk of allowing potentially maltreated children to remain unprotected. Second, CPS workers need to be trained to recognize when parents may be presenting a façade of misleading representations. Although it can be difficult to differentiate between genuine parenting and those who are putting on a façade, theoretically and empirically, informed training that emphasizes a holistic approach may offer some promise.

The literature establishes that CPS workers are aware of the basic risk factors for lethal child maltreatment. However, they have expressed a lack of knowledge on the environmental and household risk factors, as well as the impact of the perpetrator's relationship with the victim. To date, these different risk factors have been looked at in separate, small groups. As a result, we have a sense of how these risk factors individually impact child maltreatment fatalities. However, we do not know how they operate in combination with each other or under what conditions each factor will have an impact. The goal of this thesis is to identify the particular combination of factors that produce high rates of child maltreatment fatalities, which can inform the work of CPS staff when evaluating cases.

Adopting a Case-Centered Approach

I propose to use Conjunctive Analysis of Case Configurations (CACC), an innovative analytic strategy put forth by Miethe and colleagues in 2008, which shifts the analysis from a variable-centered approach to a case-centered approach and attempts to quantify qualitative differences in cases in a systematic way. CACC has increasingly been used in the criminological literature due to its ability to allow researchers to move beyond just modeling the main effects of a variable on an outcome, and instead consider

contextual variations and case complexities to better understand a wide variety of crime and criminal justice outcomes. Essentially, CACC is able to compare the presence or absence of several variables (e.g., demographic characteristics and risk factors) across cases in order to test causal relationships. For example, Regoeczi et. al. (2020) used CACC to analyze how different combinations of victim and incident attributes impact the likelihood of a homicide being cleared and whether this could explain inconsistencies in the literature regarding the independent effects of these characteristics. Similarly, CACC has also been used to examine how opportunities for terrorist attacks and prevention are situationally positioned (Gruenwald et. al. 2019), to observe sentencing disparities (Hart et. al 2014), racial differences of prison misconduct (Griffin et. al. 2019), and even how violent stranger rapes lead to sexual homicide (Chopin and Beauregard 2019). CACC is useful to address my research question by allowing me to observe the unique combinations of characteristics present in each case, and how, taken together, they impact the probability of lethal child abuse. This will present a clear image of the protective and risk factors for child homicide within the context of CPS involvement.

CHAPTER 4

METHODOLOGY

Data Sources on Child Homicide

Two data sources are commonly used to study homicide – one stemming from the CDC and the other from the FBI. The National Violent Death Reporting System (NVDRS), maintained by the CDC, links data across various existing data sources. The data specifically comes from death certificates from health departments and vital statistics departments, coroner/medical examiners' reports, and police reports (www.cdc.gov). Data are collected across varying age groups and demographics. The data provide insight into the circumstances surrounding a death, such as relationship problems, mental health conditions and treatment, toxicology results, and even life stressors. However, the NVDRS data source does not contain information on whether a child who died by violent means had a history of contact with CPS prior to their death, and that is vital information needed for this thesis.

Another common data source for studying homicide is the National Incident Based Reporting System (NIBRS). Law enforcement agencies voluntarily report crime data to their state incident-based reporting system or directly to the FBI. When police become aware of a crime, data are collected about the incident, such as the specific offenses committed, characteristics of the victim and offender, property involved in the crime, and more (www.fbi.gov). NIBRS is particularly useful for homicide research due to the details that is gives about a specific incident, allowing an in-depth look for

researchers. The data source is not without its limitations, however. For one, the incidents reported must be known to law enforcement agencies. Another limitation is the lack of information on prior CPS involvement. Because knowledge on prior CPS contact is central to my thesis, NIBRS data could not be used for this study.

Instead, data for this study come from a dataset specifically designed to capture child maltreatment and fatalities, the National Child Abuse and Neglect Data System (NCANDS), which is a commonly utilized dataset in previous research on child maltreatment and homicide (Almeida et al. 2008; Connell et al. 2007; Sheldon-Sherman et al. 2013; Putnam-Hornstein et al. 2013; Douglas 2015; Camasso and Jagannathan 2019; Douglas and Lee 2020). The National Data Archive on Child Abuse and Neglect (NDACAN) maintains the NCANDS, which is a federally sponsored project that annually collects data on child abuse and neglect cases reported to and investigated by CPS, as well as the outcome (e.g., whether the cases of maltreatment are substantiated). Data are voluntarily submitted by all fifty states, including the District of Columbia and Puerto Rico (Administration of Children and Families, n.d.). Report rates among states are very high, making this a very reliable source of data (Douglas and Lee 2020). The requirement that child maltreatment cases be known to CPS to be included in the data set makes NCANDS useful for my thesis. To my knowledge, no other data sources specifically include CPS involvement in a child's case, and this is the primary advantage NCANDS has over other data sources.

When the data are collected and turned over to the federal government, they are cleaned for clarity, consistency, and consolidation to prepare NCANDS for restricted-access and public-use datasets. Throughout this process of consolidation, state

determinations of maltreatment and definitions remain the same for each state (Douglas and Lee 2020). This process helps eliminate the grey areas that each state can have when determining maltreatment qualifiers. NCANDS has both child-level and agency-level files dating from 2000 to 2020. Specifically, I use the child-level datafile for the year 2019 to examine the contextual effects of various risk factors on lethal and non-lethal child abuse. NCANDS can include up to four maltreatment types and three perpetrators for each child in the datafile. Data from 2019 was chosen for analysis because I wanted a somewhat recent dataset to work with, but I wanted to use a dataset that was before the shutdowns of 2020.

The original dataset contained 4,256,572 cases of alleged child maltreatment disposed of by CPS in 2019. In each year they report data, NCANDS only includes completed reports from the reporting year that resulted in a disposition or finding as an outcome of the CPS response. It is important to note that NCANDS' reporting year goes from October 1st through the following September 30th, and that the disposition date determines what year data file the case is reported in. For example, CPS workers may initially make contact with a child in 2018, but if that same case does not reach a disposition until 2019, then the case will be included in the 2019 datafile. Because the unit of analysis is the child, it is possible that a single reported allegation could result in multiple cases in the dataset if the allegation involved more than one child. Additionally, due to the recording practices, it is possible for a child to have more than one record in the dataset if several allegations were opened and closed in the same year. Unfortunately, deidentification of the data prohibited identification of these cases and the potential non-independence of observations should be kept in mind when interpreting the results. I

return to this limitation and possible implications in the discussion and conclusion section.

Only cases that meet predetermined selection criteria are included and analyzed in my thesis. First, I exclude cases that had missing or unknown data for any of my variables, resulting in the loss of cases that could have potentially been part of the analysis had those variables not been missing. Next, cases where a child resided with two married parents, two unmarried parents, a two-parent household where marital status was unknown, a single mother or father-only household, a single mother household with another adult, a single father household with another adult, or non-parent, relative caregiver household at the time of the alleged incident of maltreatment are included in the sample. NCANDS includes biological and adoptive parents in these categories, as well, so there is not a clear distinguishment between the two. Children that reside in a group home, residential treatment setting, or a nonrelative caregiver household (such as foster care) are not included. These types of residences are excluded because the circumstances surrounding child maltreatment would most likely be different than those children living with a biological parent or caregiver, and thus children residing in those settings would warrant their own focus (Gil and Baxter 1979; Blatt 1992; Hobbs et al. 1999;). It is also important to note that, just because the child must reside with a specific parent or caregiver for my selection criteria, it does not necessarily mean that the perpetrator was a primary caregiver.

Further, I excluded any children that are 10 years of age or older. This exclusion is due to the literature on child maltreatment fatalities showing that children under the age of 10 are at significantly greater risk for lethal victimization within the home (Putnam-

Hornstein 2013). Finally, I excluded cases where sex trafficking was one of the maltreatment types. Sex trafficking is excluded because the circumstances of this maltreatment type are so specific that it would warrant its own research. I also excluded cases that were categorized as "other" because the category is too broad, and the unknown or missing cases have been dropped entirely from the dataset. This left the maltreatment types of physical abuse, neglect or deprivation of necessities, medical neglect, sexual abuse, and psychological or emotional maltreatment included in the sample.

To create a dataset that met the selection criteria above, I began by dropping the child living arrangements that were not appropriate for my sample, which were as follows: group home or residential setting, nonrelative caregiver household, other settings such as hospitals, and unknown living arrangements. Excluding those living arrangements dropped 1,587,085 observations from the dataset, leaving 2,669,487 observations. Next, I dropped the maltreatment types of sex trafficking, other, and unknown or missing. This dropped 385,586 observations. Then, I dropped the child ages that were not appropriate for my sample, which in this case, was any child that was recorded as 10 years of age or older. It is important to note that NCANDS records the age as "77" if the child is unborn, "99" if the age of unknown, and a "22" or "23" if one of the child's maltreatment types is sex trafficking. After dropping the ages of 10-23, 77, and 99, 1,387,311 observations were left in the sample. Finally, after all missing and unknown cases were dropped from my independent variables, this left 632,866 cases for the final sample.

Variables

Only binary variables can be analyzed using CACC. As such, the variables discussed below were all dichotomized with 1 representing the presence of certain characteristic and 0 representing its absence. Some variables were already dichotomized in the data set (e.g., the variable maltreatment death was defined as "yes" or "no"), and, if a variable was not dichotomous, I recoded it in a way to make it so. Additionally, while perpetrator race and gender were included in my literature review, these variables contained high levels of missing data (>80%), and thus could not be used for my analysis.

Dependent Variable

The dependent variable in my study is *maltreatment death*, a preexisting variable in the dataset coded as "yes" if either: (a) an injury resulting from abuse and/or neglect was the ***cause of death***, or (b) abuse and/or neglect were ***contributing factors*** to the cause of death[2]. Originally, *maltreatment death* was coded as 1 for yes, 2 for no, and 9 for unknown or missing. For my purposes, this variable was recoded as 1 for yes, 0 for no, and the missing cases were dropped. I also created two versions of this variable: one version of the *maltreatment death* variable included the blank cases (which are cases that are not coded as missing but are still considered missing and are indicated by a period) with the "no" category (e.g., 0 = no or blank and 1 = yes), and the second version of this variable treated the blanks the same as missing values and were dropped from the sample. I ran logistic regressions using both versions of the variable to see if this coding decisions significantly changed the outcome. As the difference was minimal, I ultimately decided

[2] In NCANDS, all cases that have been coded as a 1 for "yes" for the maltreatment death variable has to have at least one maltreatment disposition that has been either substantiated or indicated. If the child dies of maltreatment, but the maltreatment type if unknown, then it is recorded as a 9.

to use the second version of the maltreatment variable that treated the blanks as missing data and reported results from the more conservative sample to be consistent with the coding of other variables in the analysis.

Independent Variables

Using CACC as my analytic strategy is useful due to its ability to assess the combined effects of up to seven variables at once in the analyses. The following variables serve as my independent variables, as they are the ones that are predominantly found in the literature to be significant correlates of CMF. Again, CACC requires all variables to be dichotomized, so binary variables have been created. For all variables, the missing or unknown cases have been dropped from the sample. Independent variables are broadly grouped by victim characteristics, household factors, and prior CPS involvement. Each independent variable is discussed in more detail below.

Victim characteristics include victim age, sex, and race. The first independent variable is *young child*. Consistent with previous research on CMFs, I recoded children who were 5 years or younger as *young child* (Boudreaux et al. 2001; Putnam-Hornstein 2013; Stöckl et al. 2017).

The second independent variable is *male child*. While there is some disagreement in the literature regarding the rates at which males are victimized, overall, males are found to be victims of child maltreatment more often (Klevens and Leeb 2010; Douglas 2017; Batra et al. 2021). The original NCANDS variable – child sex – was coded as 1 for male, 2 for female, and 9 for unknown. The variable was recoded as 1 for male, and 0 for female.

The third independent variable is *Black child*. While there is some dispute in the literature regarding the overrepresentation of Black families in the child welfare system, largely, the literature does find that Black children are at proportionately greater risk of fatality due to maltreatment compared to children of other racial and/or ethnic backgrounds (Clifford-Wittekind et al. 2003; Centers for Disease Control and Prevention 2007). NCANDS codes child race through a series of binary variables, which are as follows: Indian or Alaskan Native, Asian, Black or African American, Native Hawaiian or Pacific Islander, White, Hispanic or Latino Ethnicity, or unable to determine. This coding scheme is advantageous as it allows for the identification of multi-racial children. For the purposes of this analysis, children who are biracial who are part Black are included in the Black child category. To capture the fact that Black children have been found to have higher rates of child maltreatment fatality, the child race variables were recoded as a 1 for a Black or African American child and a 0 for a non-Black or African American child (i.e., all other known races).

The household characteristics included in the analysis capture the child's living situation, including the presence of unrelated adults, domestic violence, or substance abuse in the home. As such, the fourth independent variable is an *unrelated adult residing in the home*. NCANDS includes up to 14 different child living situations in their dataset. I generated an unrelated adult variable, and this included any living arrangement from the NCANDS data set that included a non-biological parent. These living arrangements are as follows: (1) a married two parent household with one biological/adoptive parent and one stepparent; (2) an unmarried two parent household with one biological/adoptive parent and one cohabitating partner; (3) a single mother household with another adult

residing in the home (such as a grandparent, uncle, roommate, etc.); and (4) a single father household with another adult residing in the home.

The fifth independent variable is the presence of *domestic violence* in the home. NCANDS indicates the presence of domestic violence in the home in the dataset even if the perpetrator of the child maltreatment was a victim of domestic violence. Simply put, the criterion for the presence of domestic violence is if one member of the family or household inflicted domestic violence on another member of the family or household.

The sixth independent variable is *parental substance abuse*. NCANDS has two separate variables for parental/caregiver alcohol and drug abuse, as well as another variable for if the child is engaged in drug or alcohol abuse. I am specifically interested in parental/caregiver substance abuse. Given that I want to capture substance abuse in the home, regardless of the type of substance abuse, I combined the parent alcohol and drug abuse variables into one variable and called it "parental substance abuse."

Finally, the seventh independent variable is *prior contact with CPS*. Originally, I coded two separate variables to measure prior contact. The first variable used the NCANDS variable of "Prior Victim" as proxy, which indicates that the child has had past substantiated or indicated maltreatment in their file. In order to have this disposition, it is intuitive that the child would have prior contact with CPS. The second used the NCANDS variable of "Prior Perpetrator," which I recoded by combining three separate NCANDS prior perpetrator variables into one. This means that if any of the perpetrators had a prior substantiated or indicated allegation of maltreatment that occurred prior to the disposition date, the "Prior Perpetrator" variable was coded as 1. Regardless of whether the child or parent had prior contact with CPS, it is likely CPS is aware that the child may

be at risk. This could raise even more awareness to the CPS worker, particularly if the child's prior victimization was committed by the current perpetrator. To examine the relationship between the "Prior Perpetrator" and "Prior Victim" variables, I ran a cross-tabulation of the two variables, which revealed a large degree of overlap, and so it made more sense to combine the two variables into one to measure prior contact. While this intuitively and empirically made sense, I also needed to confirm that after combining these two variables there was still enough variation in prior CPS contact to analyze its effects[3]. This analysis revealed that 41,003 out of my entire sample (N=632,866) cases had both a prior perpetrator and prior contact with CPS.

Analytic Strategy

To illustrate the contextual effects and importance of taking a case-centered approach, I conduct a two-part analysis. First, I examine the main effects of the independent variables on child fatality following the more traditional, regression-based approach more commonly employed in the literature. Because the dependent variable is a binary outcome, linear regression is not appropriate, and I use logistic regression to estimate this baseline "main effects" analysis. Second, CACC is used to examine how the specific configurations of case characteristics differentially impact child fatality risk compared to when considered in isolation in the logistic regression model. CACC is advantageous in its ability to observe how combinations of multiple variables impact case outcomes; these cases are referred to as profiles. CACC is a particularly useful analytic strategy for this thesis – and in general – due to its ability to look beyond just the main

[3] The tabulation revealed that the child had prior contact with CPS 29% of the time. The three tabulations ran for each perpetrator observed that perpetrator one had prior contact 9% of the time, perpetrator two 3% of the time, and perpetrator 3 .13% of the time. It should be noted that not many cases had more than one perpetrator.

effects analysis and allow a look into specific combinations of variables that I would not otherwise see. With logistic regression, one can interpret the results for a single variable and its effect while holding all the other variables constant. CACC allows all variables to vary and examine how different combinations alter the probability of the outcome. By using CACC, I can provide context for some inconsistencies found within the child homicide literature, as well as inform future areas of research. A better understanding of how these variables interact to sometimes serve as risk factors and sometimes serve as protective factors can inform how CPS workers could most effectively approach child maltreatment investigations. Given the fact that CPS workers are over-burdened by large caseloads, my results could influence how they adapt and manage their cases, such as helping them determine which cases present the highest risk of fatality, suggesting what cases they should investigate more in-depth. All cleaning, coding, and analyses are conducted using Stata 17.

CHAPTER 5

RESULTS

Descriptive Statistics

Descriptive statistics were examined for all variables included in the analysis and are presented in Table 5.1. For victim sex, 52.6% of the sample was male, while 47.4% of the sample was female. Black victims accounted for 34.5% of the sample, while non-Black victims made up 65.5%. It is important to note that while the majority of children were not Black, Black children are overrepresented relative to their base population rate. Young children (under the age of six) make up for the majority of the sample at 61.6%, while children who were six to nine years old represented 38.4% of the sample. CPS workers documented a history of domestic violence in the household in 16.4% of cases. In addition, 23.5% of children resided with an unrelated adult, and in 14.9% of cases, caseworkers reported that substance abuse by a parent or caregiver was also part of the child's homelife. In 35.8% of cases, either the victim, the offender, or both had prior contact with CPS in some capacity. Of all cases reports of alleged child maltreatment reported in 2019 (N=522), 0.1% of children died due to abuse or neglect.

Logistic Regression Results

The next step in the analytic process was to run a logistic regression for the main effects analysis. These results are displayed in Table 5.2. Except for two variables (unrelated adult and Black child), all variables were statistically significant at the .01 level.

The variable with the greatest risk of a fatality for a CMF was young child, which increased the odds of a fatality by 6.92. This finding is consistent with the child homicide literature, as younger children are often at significant risk of victimization compared to older children and are especially vulnerable to CMF (Putnam-Hornstein et al. 2013). The second most lethal factor was documented substance abuse by the caretaker, which increased the odds of fatality by about 1.5. Substance abuse has been found to be a risk factor for filicide in the literature, and families that have a history of child welfare contact for substance abuse also have an increased likelihood of re-referral, which is associated with increased fatality risk (Farooque and Ernst 2003; Garcia et al. 2022). Male children were also found to be at a greater risk for maltreatment death than female children, (approximately 1.4 times more likely), holding all other variables constant. Prior contact with CPS also increased the odds of fatality by 1.4, consistent with the research that finds children with previous CPS contact are at higher risk for CMF (Douglas 2017).

In contrast to the other statistically significant variables in the model, domestic violence had an odds ratio of .6, indicating the documented presence of domestic violence in the home *reduced* the odds of a fatality by approximately 40%. While domestic violence is primarily thought of as a risk factor for CMF due to domestic violence and child maltreatment often co-occurring (Edleson 1999; Jaffe and Joudis 2006), it has also been found to be a protective factor against CMF in some circumstances (Center for the Study of Social Policy 2018; Miyamoto et al. 2016; Ridings et al. 2017). This protective factor derives from an increased response to intimate partner violence (IPV) by CPS workers and law enforcement agents (Miyamoto et al. 2016). This increased response means that families are more likely to receive services to

help rectify the situation, such as social support and family services. More services can also mean more eyes on the family, which could indirectly decrease a child's risk of victimization.

Finally, the unrelated adult and Black victim variables were not statistically significant. These findings were unexpected given the large sample size and because the literature discusses an unrelated adult in the home and a Black victim as significant risk factors for a child maltreatment fatality (Gelles 1973,1996; Daly and Wilson 1994; Clifford-Wittekind et al. 2003; Herman-Giddens et al. 2003; Lu et al. 2004; Schnitzer and Ewigman 2005; Schnitzer et al. 2008; Drake et al. 2011; Douglas et al. 2017; Block and Kaplan 2022). The logistic regression results were useful to examine the statistical significance – or lack thereof – of each variable independently, as well as to understand the magnitude of the effect they have on the odds of a fatality occurring. The logistic regression results in conjunction with the CACC results can further help make sense of my findings. The results of the conjunctive analysis are discussed next to further understand the contextual effects of a child's maltreatment fatality risk, including the null findings for these two variables in the main effects analysis.

CACC Results

Tables 5.3 and 5.4 display the results of the conjunctive analysis. Initially, there were 128 unique combinations of the seven variables present in the dataset. However, to eliminate profiles that were relatively rare in the data, I applied a minimum frequency of 0.5%, which eliminated configurations that had less than 1,000 cases. This is consistent with previous studies that use CACC (Hart and Miethe 2008; Regoeczi et al. 2020). There is no agreed upon way to establish the minimum frequency applied. I chose to

apply a minimum frequency of 0.5% as my cutoff based on an examination of profiles present in my data. Looking at how many cases remained when applying a minimum frequency of 0.1%, there were too few profiles to work with (e.g., 30 cases); if I applied a minimum frequency any higher than 0.5%, there would have been too many profiles (e.g., >46 cases). When deciding on how many profiles should be included, it was decided that 30 profiles would be too few to work with. After applying the minimum frequency rule, 46 profiles remained for analysis. The most common profile (profile #38, which had 51,589 cases; see Table 5.4) was that of a non-Black male victim under the age of six residing in a home with none of the household risk factors present (i.e., the absence of documented substance abuse, domestic violence, or an unrelated adult in the home, and prior contact with CPS). The average probability of a CMF for this profile is approximately 126 per 100,000 cases.

The mean proportion of fatalities across the 46 configurations was 8.1 per 100,000, and I used this number to split the results into the categories of "less likely to result in a child maltreatment fatality" (i.e., those below the mean) and "more likely to result in a child maltreatment fatality" (i.e., those above the mean). It is important to note that the U.S. Department of Human Services reported 2.38 per 100,000 children died due to maltreatment in the year 2020. My mean proportion of fatalities in my sample – 8.1 per 100,000 – emphasizes the vulnerability of children to death in my sample compared to children in the U.S. overall. As shown in Table 5.3, profile 1 (N=9,088) and 2 (N=6,333) are the least lethal profiles for a CMF, with mean probability of CMF risk at 0. Profile 1 is a non-Black male victim who is under the age of 6 where there is an unrelated adult in the home, no domestic violence, no prior substance abuse, and no prior CPS contact. It is

interesting to note that this profile is identical to the most commonly occurring profile referenced earlier (profile #38), which also carries a relatively high fatality risk. I return to this important finding in the discussion of my results below. Profile 2 is a non-Black female victim over the age of 6 with no domestic violence or substance abuse in the home, but with an unrelated adult residing in the home and prior contact with CPS. Conversely, the most lethal profile is number 27 (N=4,813), as shown in Table 5.4. This profile involves a non-Black male victim under the age of 6 who has no domestic violence or an unrelated adult in the household, but with substance abuse in the home and has had prior contact with CPS. Again, it is interesting to note the differences in the combination of case characteristics present in the most lethal profile compared to those with the least risk (profiles 1 and 2). For example, the most lethal profile did not include an unrelated adult, but both profiles that were least likely to result in a CMF did involve an unrelated adult. The most lethal profile is also consistent with the effects of the logistic regression model – male victim, young child, prior contact, and substance abuse were all found to be significant and positively associated with child maltreatment fatality; these were all included in profile 27. Domestic violence as a protective factor was also consistent across both the logistic regression and the CACC analyses. In the logistic regression model, it had a negative effect on fatality; in the CACC analysis, domestic violence was present in only two (e.g., profiles 42 and 46 in table 5.4) of the profiles that are more likely to result in a CMF.

One thing that was of particular interest in the CACC results was that, in all the combinations that were present in the "more likely" category, the young child variable was the only variable that appeared in every single combination. Also, the young child

variable was not included in any of the profiles that were less likely to result in a CMF until the mean reached a certain point, which was 37.97 (profile 18). Except for profile 22, a young child was included in profiles 18 to 26. These results are consistent with the child homicide literature for young children below the age of 6 as being most at risk of being killed as result of maltreatment. In fact, not only is it consistent, but it strengthens these findings as the CACC results suggest that being a young child is a risk factor regardless of the context, whereas the other variables have clear contextual effects.

In addition, the CACC results illuminated the contextual effects of the unrelated adult variable, as well. This variable was not significant in the logistic regression model; however, the CACC results reveal much more detail than the logistic regression does. First, there was an unrelated adult in the household in several of the profiles that were least likely to result in a CMF (e.g., profiles 1 and 2 in table 5.3), but there is also an unrelated adult in the household in several that are more likely to result in a CMF (e.g., profiles 31, 34, 35, 41, and 45 in table 5.4). This tells us that whether an unrelated adult in the household increases the risk of a fatality depends on the characteristics of the other variables.

CHAPTER 6

DISCUSSION

The purpose of this thesis was to analyze the combination of factors that can have the greatest combined impact on a child's maltreatment fatality risk. Within the child homicide literature, this study is one of the few that examines how particular combinations of variables impact filicide risk. Using conjunctive analysis, I was able to observe the interplay between seven independent variables that influenced CMF risk. Overall, the CACC results, in conjunction with the logistic regression results, fill in gaps in the literature, offer answers for inconsistencies, and bring in new insights. First, the variable of "young child" was present in every single combination of the dominant profiles that were most likely to result in a CMF, and it was also statistically significant in the logistic regression model. This supports the conclusion that the effect of the child's age is a direct one that does not depend on context. This result is very consistent with the child homicide literature, which states that young children – particularly those below the age of six– are at significant risk of victimization (Putnam-Hornstein 2013). Young children less than six years of age may be more at risk than those six or older because children do not typically start school until the age of six, which is when most children begin kindergarten and as a result spend more time away from the home. Additionally, children who are school aged are typically around teachers most days of the week, and as a result, are seen by these mandated reporters. Boudreaux et al. (2001) apply Routine

Activities Theory to child homicide – as children grow older, they spend more time out of the home, and therefore have greater risk outside the home. Children who are younger, who also spend more time at home, have more risk of victimization inside the home.

The child homicide literature does have some inconsistent findings regarding whether male children are at greater risk of maltreatment victimization than female children (Lucas et al. 2002; Klevens and Leeb 2010; Douglas 2015; Douglas 2017; Batra et al. 2021). Out of all 46 profiles in tables 5.3 and 5.4, a male victim is included in over 50% of the profiles. Of the profiles that are most likely to result in a fatality, seven out of 10 involved a male victim. The results of the current study suggest that victim gender should be examined more closely when other potentially lethal factors are present. The CACC results can explain inconsistencies in the literature because we can see the different combinations as opposed to just one variable and if it is simply significant or not. While the logistic regression results did show that a male victim was statistically significant, and positively associated with the probability of CMF, the CACC results support that sometimes being a male child matters in certain contexts, but not as much in others. For example, based off of the CACC results, being a male child below the age of six seemed to be a risk factor for CMF, as the young child variable was included in many of the profiles that also involved a male victim. Further the top six profiles (e.g., 27 to 32) of the ones most likely to result in a CMF involve prior contact with CPS, but they also involve a male victim, except for one profile (profile 28), where the victim is female. Perhaps in this regard, male children are a greater risk of CMF when they have prior contact with CPS compared to female children. This knowledge of different

configurations can inform CPS on what factors may put children more at risk than others, further influencing how they approach case investigations.

When considered in isolation, the maltreatment risk for Black children also has inconsistencies in the literature (Gelles 1973,1996; Herman-Giddens et al. 2003; Lu et al. 2004; Schitnzer et al. 2008; Drake et al. 2011; Douglas 2017). My results reveal that, depending on the combinations of the other variables, sometimes male children and Black children are included in profiles with low risk of homicide and sometimes in profiles with high risk of homicide. Prior research has found that social and economic stress due to poverty, racism, and housing difficulties contribute to an increased risk for maltreatment for minority children (Gelles 1973, 1996; Drake et al. 2011). Another study found that minority children are more likely to receive reports for maltreatment, and thus minority families have more contact with CPS (Drake et al. 2011). The CACC results strongly support that context matters for victim race, however, future research on how victim race and socioeconomic status impacts their fatality risk would be insightful for CPS workers.

Domestic violence and substance abuse are two household factors that are commonly discussed in the literature as risk factors for child maltreatment fatalities (Daly and Wilson 1994; Edleson 1999; Websdale 1999; Clifford-Wittekind et al. 2003; Schnitzer and Ewigman 2005; Jaffe and Joudis 2006; Jaffe et al. 2011; Adhia et al. 2019; Block and Kaplan 2022). However, some literature has discussed domestic violence as a protective factor against CMF (Center for the Study of Social Policy 2018; Miyamoto et al. 2016; Ridings et al. 2017). My results show support that, in some situations, domestic violence may in fact serve as a protective factor. In the logistic regression model,

domestic violence had a statistically significant negative effect. In the 20 profiles that were most likely to result in a CMF, only two included domestic violence (profile 42 and profile 46). Domestic violence was included in six profiles in the less likely to result in a CMF category. Perhaps this is due to the increased response that families receive for domestic violence from CPS workers and law enforcement agents (Miyamoto et al. 2016), and home-based services have been found to be a significant protective factor against both domestic violence and child maltreatment (Ridings et al. 2017). Additionally, substance abuse was only included in one profile in the less likely to result in a CMF category (profile 25), but it was included in five profiles in the more likely to result in a CMF category. Profile 25 in table 5.3 includes a male Black child who is under the age of 6 and has substance abuse in the home but no domestic violence or an unrelated adult in the home and has not had prior contact with CPS. As profile 25 is the only profile that substance abuse was included in as far as the less likely to result in a CMF profiles, it does suggest that substance abuse as a household factor is not a particularly lethal risk factor on its own. These CACC results inform us that domestic violence and substance abuse may not be as much of a risk factor as the main effects literature suggests; it depends on the other factors that are present within a given situation.

An unrelated adult in the household is also consistently viewed as a risk factor for child maltreatment (Daly and Wilson 1994; Clifford-Wittekind et al. 2003; Schitzer and Ewigman 2005; Planitz and Feeney 2009; Hilton et al. 2015; Block and Kaplan 2022). This can largely be attributed to the Cinderella effect, which is a phenomenon that occurs when stepparents kill or abuse their spouse's biological children (Block and Kaplan

2022). However, over half of the profiles that were less likely to result in a CMF had an unrelated adult present, similar to the domestic violence and substance abuse variables. The CACC results show that sometimes having an unrelated adult in the household increases the risk of fatality and sometimes it decreases it, depending on the other factors present. These two oppositive effects effectively cancel each other out, making the effect nonsignificant in the logistic regression analysis. We would have missed the potential protective effects of an unrelated adult residing in home had we relied on just the results from the logistic regression. Further, the CACC results reveal that an unrelated adult could in fact be a protective factor against CMF. Perhaps it is because another adult is present, almost in a "watchguard" status. This can relate to routine activities theory, which requires a suitable target, the absence of a capable guardian, and a likely offender. Sometimes, two adults in the home, as opposed to just one, there is a higher likelihood of a capable guardian being present, and therefore a child's risk of maltreatment decreases (Boudreaux et al. 2001). However, this is not always the case, as we saw in the Gabriel Fernandez case. Schnitzer and Ewigman (2005) found that children who resided in homes with the boyfriend of the child's mother were at significant risk for injury-inflicted deaths. The CACC results warrant future research in the specific situations where an unrelated adult could serve as a protective factor against CMF and whether the type of unrelated adult matters. This can be attributed to the Cinderella effect – does an unrelated partner or stepparent raise a child's lethality risk, whereas another kind of unrelated adult in the home could lower lethality risk?

Prior contact with CPS was one of the variables in the most lethal combination and was included in almost 50% of the most lethal combinations. This is consistent with

the findings from the logistic regression model - where prior CPS contact was statistically significant - as well as consistent with the literature (Anderson et al. 1983; Schnitzer and Ewigman 2008; Welch and Bonner 2013; Douglas 2017). In the CACC results, it is interesting to see how the mean changes between two profiles that have the same variables included, with the exception of the prior contact variable. Profile 1 in table 5.3 involves a non-Black male victim over the age of 5 who has no domestic violence or substance abuse in the home but resides with an unrelated adult and has had no prior contact with CPS. The mean for this profile is 0. However, profile 16 describes a male non-Black victim over the age of 5 who has no domestic violence or substance abuse in the home but resides with an unrelated adult and has had prior contact with CPS. The mean for this profile is 28.99 per 100,000. It is informative to see how the mean probability of death changes when just adding and taking away prior contact with CPS. There is another instance of this in table 5.4. Profile 27 includes a non-Black male victim below the age of 6 who has substance abuse in the home but no domestic violence and no unrelated adult in the home but has had prior contact with CPS. The mean probability of death is 270 per 100,000. Profile 33 describes a non-Black male victim below the age of 6 who has substance abuse in the home but no domestic violence, no unrelated adult, and no prior contact with CPS. For this profile, the mean probability of death decreases to 156 per 100,000 with no prior contact. Paired with the logistic regression results, which do show prior contact to be statistically significant, these results warrant that prior contact with CPS is indeed a risk factor for CMF.

Past literature reveals that many CPS workers are knowledgeable on some risk factors, such as child age, the mental health of the parent(s), and the relationship between

the parent and child, however, they are less knowledgeable regarding perpetrator relationships with the victim and environment/household risk factors (Douglas 2012). My results can inform CPS workers on household factors, such as an unrelated adult in the home, which could be a risk or protective factor. When encountering a situation where there is an unrelated adult living with a child, CPS workers can examine the unrelated adult in relation to the other factors that may be in the home (e.g., if there is also substance abuse or domestic violence in the home). Future research could also help fill in this gap.

Overall, these findings tie directly back into my theoretical framework for this thesis, which is Michael Lipsky's Street-Level Bureaucracy. Lipsky (1980) proposes that social service workers develop their own street-level policies to cope with adverse working conditions, including large caseloads, and these adaptations may not necessarily align with the agency's policies. If agency policies do not necessarily work on the street, then there is clearly a disconnect between the policies that are on the books and what social workers are doing in practice. In this case, one of the central obstacles facing CPS workers that they need to resolve includes finding ways to manage and prioritize their large caseloads. By knowing the most lethal combinations of factors, they can be better prepared to manage their cases based off the factors present, while also being more confident in their decisions knowing that they are based on empirical evidence. Further, as CPS workers engage in routinizing, stereotyping, and favoritism to manage their caseloads, the CACC results could give some validity to how they approach their caseloads. For example, if they routinely check on younger children more than they do older children, given that children who are under the age of 6 have been found to be at

significant risk for maltreatment compared to older children. CPS workers may also adapt their behavior in other ways, such as engaging in favoritism or stereotyping to manage caseloads. There may be children that they enjoy visiting more, and as a result the CPS worker checks on the household more often, or the CPS worker may stereotype based on where the child lives if they perceive them as being more at risk. These various coping mechanisms are a byproduct of the large amount of discretion that CPS workers have in their job. Discretion can be a useful tool in any social service worker's arsenal; however, their discretion largely goes unchecked by supervisors. Discretion can be based off prior experience, and prior experience can in turn be based off of stereotyping and routinizing. They may also use discretion to further investigate if a situation doesn't seem right, even if all indicators point to the fact that everything is okay or override a recommendation from a risk assessment tool if they believe the risk is greater than what the case assigned. While discretion can never be fully eliminated when working with humans, the results from this research and future research can guide CPS worker discretion.

Implications

The purpose of these results is to inform policy, training, and other stakeholders of the risk factors that can be particularly lethal. The variables that were significant (and not significant) in the logistic regression could help establish a baseline of variables that can be included in training for CPS workers as specific, individual risk factors that should be heavily investigated and screened so workers can make appropriate cases decisions, such as developing a plan for the family to provide a safe household for the child/children or place them out of the home when necessary. Further, the more lethal and less lethal combinations from the CACC results can also be useful to teach CPS workers that factors

and their combinations matter – knowing what variables are or are not significant is not enough when making case decisions. The most lethal combination in the results – a non-Black male victim under the age of six who has substance abuse present in the home, but no domestic violence or unrelated adult in the home and has had prior contact with CPS – suggests that when there are multiple risk factors present in a home at once, the outcome can be devastating. Alone, certain variables are significant, and when combined, they can be particularly dangerous. Conversely, variables may pose little threat overall (or even serve as a protective factor), depending on the other factors present or absent. This can emphasize the importance of allocating various social services to the family and provide a different way of thinking about how to proceed with an investigation. For instance, a home with only substance abuse may only need drug rehabilitation services, but a home with domestic violence and substance abuse will probably need multiple services in order to meet their needs.

One way that CPS agencies can manage cases is to utilize a risk assessment tool that is provided to workers while they are investigating a case. Ideally, the risk assessment will incorporate research findings, such as the findings from this thesis, that show certain factors can increase or decrease the risk of lethality depending on the context of the situation. For example, a CPS worker sees that a young male child is residing in a home where the caregivers have substance abuse issues, and CPS has encountered this family in the past. Based off the (hypothetical) assessment, the child's case is scored as a high risk, which tells the CPS worker that the caregivers should be provided resources to help address their substance abuse while the child is placed out of the home for their safety.

The unrelated adult variable was not significant in the logistic regression model, despite the child homicide literature highlighting this variable as a risk factor for CMF (Daly and Wilson 1994; Clifford-Wittekind et al. 2003; Schnitzer and Ewigman 2005; Block and Kaplan 2022). Upon taking an in-depth look at the CACC results, there may be more to an unrelated adult residing in the home than it just functioning as a risk factor. Out of all 20 profiles in the "more likely" category, there was an unrelated adult in the home in six of them. This is shocking, as one would think it would be more prevalent, given the literature. Conversely, an unrelated adult was included in 10 out of 26 of the profiles in the "less likely" category. However, the CACC results could be interpreted that an unrelated adult may serve as a protective factor in certain situations. By looking at what profiles have an unrelated adult, and ones that do not, is telling. For example, profile 30, which was one of the profiles that is more likely to result in a CMF, involved a Black male child under the age of six, who has no domestic violence or substance abuse in the home but resides with an unrelated adult and has had prior contact with CPS. Perhaps the risk an unrelated adult in the home poses varies by the child and context.

Overall, my results cannot tell why prior contact with CPS is significantly and positively associated with lethality, and it's less likely that CPS involvement increase the risk of lethality because of the involvement itself, but it is clear they are related. Rather, my results extend what we know about CMFs tending to result from ongoing abuse or neglect. This can be particularly important for offering guidance to CPS workers and why CMFs are among the most preventable types of homicide. If CPS is making repeated case visits to a home, then it is conceivable to think that alleged – or substantiated – abuse is still ongoing. This has important implications in the way we think about CPS contact. It

is the social workers who are involved with multiple families every day and they may have to make decisions that do not necessarily align with agency policies in order to cope with the demands of the job. However, it must be recognized by CPS and other stakeholders that if they are having to visit a family more than once, it could very well mean that child maltreatment is still ongoing. That is why it is vital to give these workers resources that will help them conduct more thorough and detailed investigations. This is a primary issue regarding the way child maltreatment investigations are conducted, as we saw in the Gabriel Fernandez case.

One resource, a risk assessment tool, which was mentioned previously, could be particularly helpful for CPS workers. The independent variables can be used as factors in the risk assessment tool so CPS workers can create scores based off a child's specific situation. Again, the presence or absence of certain factors do not necessarily mean that a CMF will or will not occur, but the CACC results suggest that their combination is what is most informative. An analytical model – similar to CACC – can be created to weigh the different combinations of factors and thus create a comprehensive score to assist CPS workers in making case decisions. Above all, social service workers must utilize discretion in their everyday tasks, as discussed by Michael Lipsky (1980), and a risk assessment tool should by no means override this discretion – it should merely be a guide in which case workers can use to manage large caseloads. Further, my results can also inform training for CPS workers. As previously mentioned, CPS workers reported that they were most knowledgeable about child age, the mental health status of the parent(s), and the relationship of the parent and child, but were left wanting to know more about environmental/household factors and perpetrators relationships with the victim. My

results – as well as future research using CACC – can fill in these gaps. For example, consider domestic violence and the profiles in which it was and was not present. Profile 1 in table 5.3 included a non-Black male victim over the age of 5 who had no substance abuse or domestic violence in the home but resided with an unrelated adult and had no prior contact with CPS. Profile 9 in table 5.3 included a male non-Black male victim over the age of 5 who had no substance abuse and no unrelated adult in the home but had domestic violence in the home and no prior contact with CPS. The differences between these two profiles suggest that the contextual variations matter regarding fatality risk is invaluable for CPS training.

Limitations

While informative, this research study is not without limitations. While NCANDS was useful for my thesis as far as the inclusion of variables that were vital for my research, some of the data that were missing prevented me from including some variables that the literature indicated could be important. For example, I could not analyze offender age, race and gender in my analyses due to these three variables having high amounts of missing data. This left me unable to capture what could have been useful information and another consideration for CMF risk. A second limitation is that the NCANDS dataset is not particularly easy to work with. It was not consistent with how it indicated missing data, which often made it confusing to clean and code the data. Sometimes it was marked with a "9" for unknown/missing data, and sometimes it was indicated by a period (".”). This made it particularly difficult to code the data and keep my coding consistent. Additionally, there was no way to account for duplicate entries – such as when a child had more than one final disposition in the same reporting year - in the dataset due to

deidentification of the cases. This should be kept in mind when interpreting these results, as the data could be skewed to suggest that some factors occur more or less times due to duplicate entries.

The living situation variable also proved to be a limitation, as it was not coded in way that made it easy to identify the situations that I was interested in, primarily ones that had unrelated adults in the home. In NCANDS, there can be up to 13 described living situations and a variable for "unknown". Of those living situations with an unrelated adult present, "unrelated adult" was described in different ways. For example, one living situation included an unmarried two parent household with one biological/adoptive parent and one cohabitating partner. However, in another living situation, it was a single mother household with another adult, such as a grandparent, aunt, uncle, or other unrelated adult. Due to this, the other adult could have been related or unrelated, and there was no clear way to confidently tell if there was truly an unrelated adult or not. The best way to account for this was to include all cases in which NCANDS reported an unrelated adult may be present. The last limitation is that I was unable to capture how many times a child had previous contact with CPS, as this information could have also been useful for my research. Because NCANDS deidentified the data, this prohibited the identification of cases where a child had more than one allegation in the same reporting year.

Conclusion and Future Research

Child protective services were designed to protect children; however, a history of repeated contact has been found to be a risk factor for CMF. Other significant risk factors for child maltreatment fatality are male children under the age of six, domestic violence, and substance abuse. Of the combinations that were most likely to result in a fatality, 11

out of the 20 combinations involved a male victim. For one, the most lethal combination in the results involved a non-Black male victim below the age of six. Another lethal combination that involved a male victim also included a Black child below the age of six who had prior contact with CPS. The combination of factors matters when it comes to determining the risk that a child has, and the CACC results resolve some of the inconsistencies in the child homicide literature regarding victim gender and victim race. In some contexts, male children have an increased risk of fatality, and a decreased risk in others; similarly, Black children have a higher risk for CMF in some contexts, and a lower risk for CMF in others.

Further, more research is needed regarding the unrelated adult variable. As previously discussed, an unrelated adult in the home is commonly discussed as a risk factor for child homicide. However, the CACC results reveal that may not always be that case – in fact, they may, in certain situations, serve as a protective factor. Future research on *who* the unrelated adult is could further inform risk assessments for CPS workers. For example, a female roommate may not be a risk factor for CMF, but a live-in boyfriend of the mother's could be a risk factor. More research on this topic could be vital in what we have commonly seen regarding the unrelated adult variable. The same can be said for the domestic violence and substance abuse variables. While domestic violence has recently begun to be viewed as a potential protective factor against CMF, substance abuse is still largely viewed as a risk factor. If domestic violence is bringing more eyes to the home, as well as more services offered to the family, something similar could be said for substance abuse. Further, the kind of substance abuse should be further researched to uncover if there is a difference between alcohol abuse and drug abuse on a child's fatality risk.

The limitations of the NCANDS data set opens up future research opportunities. First, using CACC to assess the contextual effects of offender gender and race could be useful, as I was unable to capture this due to high levels of missing data. Offender race and gender, in combination with the other factors included in this thesis, could also open up more insight regarding CMF risk. In addition, future research should examine the living situation of the child. For example, NCANDS grouped together biological parents and adoptive parents. It is very possible there is a differential risk between biological parents and adoptive parents. As CACC goes beyond the main effects of a logistic regression model, it's an overall advantageous tool in child homicide research.

Another area that can be researched in the future is examining the number of times a child has been referred to CPS and if this affects their fatality risk. As this is not something I was able to capture for this thesis, future research could fill this gap. While prior contact with CPS has been discussed as a risk factor for CMF, more detail about this could be particularly informative. Perhaps if a child has only had one prior allegation of abuse, CPS is less likely to act as quickly compared to a child who has had five prior contacts with CPS. While the ultimate goal is to eliminate multiple contacts with CPS entirely, future research on the number of times a child has had contact with CPS could be informative for case decisions, as well as policy outcomes. Additionally, the type of service received by families and how they can be a protective or a risk factor for CMF could also be an important topic for future research.

Finally, CACC is also a useful tool to quantify qualitative differences in cases. In-depth case reviews of child maltreatment deaths can be used as an extension of this to better understand the *why* behind the patterns observed in the CACC analyses. Overall,

the ultimate goal is to prevent child fatalities due to maltreatment, which is a highly preventable occurrence. My research shows that CACC is very useful for observing variations in case outcomes - how different combinations of variables can produce different results. However, future research must go even further into discovering the why.

Table 5.1: Descriptive Statistics, NCANDS Child File 2019 (N=632,866)

Variable	Frequency (Percent)
Victim Sex	
Male	332,727 (52.6)
Female	300,139 (47.4)
Victim Race	
Black	218,276 (34.5)
Non-Black	414,590 (65.5)
Victim Age	
Under 6	389,704 (61.6)
6 to 9 years	43,162 (38.4)
Household Factors	
Domestic Violence	
Yes	103,460 (16.4)
No	529,406 (83.7)
Unrelated Adult	
Yes	148,959 (23.5)
No	483,907 (76.5)
Substance Abuse	
Yes	94,099 (14.9)
No	538,767 (85.1)
Prior Contact	
Yes	226,710 (35.8)
No	406,156 (64.2)
Maltreatment Death	
Yes	522 (0.1)
No	632,344 (99.9)

Table 5.2 (632,866): Logistic Regression Results for Child Maltreatment Fatalities

Variable	B	SE	Odds Ratio
Domestic Violence	-.458**	.135	.633
Substance Abuse	.384**	.106	1.469
Unrelated Adult	.019	.104	1.019
Young Child	1.934**	.158	6.915
Prior Contact	.299**	.090	1.345
Black Victim	.072	.091	1.075
Male Victim	.306**	.089	1.358

*$p < .05$ **$p < .01$*

Table 5.3: Outcomes of Child Maltreatment Fatalities in Conjunctive Analysis of Case Configurations (N=250,237)

Dominant profiles *less* likely to result in a child maltreatment fatality:

Situation ID	Domestic Violence	Unrelated Adult	Substance Abuse	Young Child	Prior Contact	Black Victim	Male Victim	Mean[4]	N
1	0	1	0	0	0	0	1	0	9088
2	0	1	0	0	1	0	0	0	6333
3	0	0	0	0	0	0	0	7.56	26451
4	0	0	0	0	0	1	0	7.75	12907
5	0	0	0	0	1	0	0	12.33	16233
6	0	0	0	0	0	0	1	12.84	31444
7	0	0	0	0	1	1	0	20.6	9711
8	0	1	0	0	0	1	1	21.16	4726
9	1	0	0	0	0	0	1	23.52	4251
10	0	1	0	0	0	1	0	24.82	4029
11	0	1	0	0	0	0	0	25.24	7925
12	1	0	0	0	0	0	0	26.21	3828
13	0	0	0	0	0	1	1	26.46	15115
14	0	1	0	0	1	1	1	26.72	3742
15	0	0	0	0	1	0	1	27.86	17944
16	0	1	0	0	1	0	1	28.99	6899
17	0	0	0	0	1	1	1	34.39	11630
18	1	0	0	1	0	1	1	37.97	5268
19	1	0	0	1	1	0	1	45.16	4429
20	1	0	0	1	0	1	1	54.7	5484
21	0	1	0	1	1	1	0	55.63	3595
22	0	1	0	0	1	1	0	61.09	3274
23	1	0	0	1	0	0	0	61.93	8073
24	0	0	0	1	1	1	0	1.3	11408
25	0	0	1	1	0	1	1	71.55	4193
26	0	1	0	1	0	0	0	76.23	11807

[4] All probabilities have been multiplied by 100,000.

Table 5.4: Outcomes of Child Maltreatment Fatalities in Conjunctive Analysis of Case Configurations (N=382,629)

Dominant profiles *more* likely to result in a child maltreatment fatality:

Situation ID	Domestic Violence	Unrelated Adult	Substance Abuse	Young Child	Prior Contact	Black Victim	Male Victim	Mean[5]	N
27	0	0	1	1	1	0	1	270.1	4813
28	0	0	1	1	1	0	0	204.04	4411
29	0	0	0	1	1	1	1	199.12	12555
30	0	1	0	1	1	1	1	182.72	3831
31	0	1	0	1	1	0	1	167.76	7153
32	0	0	0	1	1	0	1	161.5	20587
33	0	0	1	1	0	0	1	156.01	8974
34	0	1	0	1	0	1	1	155.8	7702
35	0	1	0	1	1	0	0	141.13	6377
36	0	0	1	1	0	0	0	131.74	8350
37	0	0	0	1	0	1	1	127.83	25815
38	0	0	0	1	0	0	1	126	51589
39	0	0	0	1	0	1	0	124.8	23237
40	0	0	0	1	1	0	0	120.61	19069
41	0	1	0	1	0	1	0	126	7105
42	1	0	0	1	1	0	0	104.82	3816
43	0	0	1	1	0	1	0	99.4	4024
44	0	0	0	1	0	0	0	94.57	46527
45	0	1	0	1	0	0	1	94.54	12693
46	1	0	0	1	0	0	1	90.42	8848

[5] All probabilities have been multiplied by 100,000.

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APPENDIX

IRB APPROVAL LETTER

UNIVERSITY OF SOUTH CAROLINA

OFFICE OF RESEARCH COMPLIANCE

INSTITUTIONAL REVIEW BOARD FOR HUMAN RESEARCH
DECLARATION of NOT HUMAN SUBJECTS

Ashley Mancik
1305 Greene St
Columbia, SC 29208

Re: **Pro00118916**

Dear Dr. Ashley Mancik:

This is to certify that Research Proposal entitled ***Child Homicide in South Carolina: The Role of Family Court*** was reviewed on **3/1/2022** by the Office of Research Compliance, an administrative office that supports the University of South Carolina Institutional Review Board (USC IRB). The Office of Research Compliance, on behalf of the Institutional Review Board, has determined that the referenced study meets the Not Human Subject criteria set forth by the Code of Federal Regulations (45 CFR 46) of:

a. the specimens and/or private information/data were not collected specifically for the currently proposed research project through an interaction/intervention with living individuals OR

b. the investigator(s) including collaborators on the proposed research cannot readily ascertain the identity of the individual(s) to whom the coded private information or specimens pertain

No further oversight by the USC IRB is required; however, the investigator should inform the Office of Research Compliance prior to making any substantive changes in the research methods, as this may alter the status of the project.

If you have questions, contact Lisa M. Johnson at lisaj@mailbox.sc.edu or (803) 777-6670.

Sincerely,

Lisa M. Johnson
ORC Associate Director and IRB Manager