

## ABSTRACT

Title of dissertation: A Comparative Analysis of  
Multiple Level Risk Factors  
Between Child Homicide and Child  
Abuse and Neglect.

Debra L. Stanley, Doctor of Philosophy, 1995

Dissertation directed by: Charles F. Wellford, Professor  
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and Criminology.

The primary purpose of this study was to explore and compare the risk factors between two major categories of child homicide and child abuse and neglect. The two child homicide categories are intrafamilial for all children murdered by a caretaker, and extrafamilial for all other homicides involving noncaretakers. Using State of Maryland Child Fatality Review data and Baltimore City Child Abuse and Neglect data, for the period between January 1993 and June 1994, multiple level risk factors are compared. The three levels of risk include individual, family, and community factors.

The first phase of the analysis found that Baltimore city and all other Maryland city child homicide data are somewhat similar when examining each level of risk. The second phase of the analysis compares risk factors between

each child homicide category. The typical child homicide victim was found to be a black male, with most intra-familial victims under 10 years of age, and most extra-familial victims between 10 and 17 years of age. The intrafamilial suspects were primarily the biological father between 26 and 48 years of age, while the typical extrafamilial suspect characteristics mirrored that of their victims.

The third phase of the analysis compares both categories of child homicide and child abuse and neglect incidents. The victims' age, gender, and birth order position appear to differ when comparing child homicide and child abuse and neglect data. The suspect profiles appear to be similar for intrafamilial homicide and child abuse and neglect. Most victims' are living with a single parent and have experienced prior abuse or neglect. Also, most child homicide and child abuse and neglect victims have similar community level characteristics.

The final phase of the analysis examines the specific causes and circumstances of death and injury. Intra-familial homicide and child abuse and neglect incidents have similar characteristics with regard to causes and circumstances of death or injury.

A COMPARATIVE ANALYSIS OF MULTIPLE LEVEL RISK FACTORS  
BETWEEN CHILD HOMICIDE AND CHILD ABUSE AND NEGLECT

By

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of The University of Maryland in partial fulfillment  
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1995

**Dedication**

To all the children, past, present, and future...

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## CHAPTER 1. INTRODUCTION

### 1.1 Statement of the Problem

Evidence of child abuse and child homicide date back to the earliest days of civilization when ancient laws and attitudes overlooked the welfare of children.

Historically, violence against children has always existed, however, national statistics show that the rate and seriousness have steadily increased throughout the 1900s (Jason, 1983; Berg, 1987; Christoffel, 1990).

Prior to the 1900s, poor medical treatment and childhood infectious diseases had a major impact on high child mortality rates. As medical treatment improved and infectious diseases were better controlled, public attention shifted away from rapidly declining child mortality rates. However, by the mid 1950s a deceleration in the rate of decline of childhood deaths began to occur. While natural death rates continued to decline, the unnatural or all non disease related deaths of children began to increase (Vital Statistics, 1989). In the early 1900s external causes (i.e., accidents, homicide, suicide, and undetermined causes) accounted for less than 10% of all childhood deaths. By mid-century, external causes accounted for over 35% of all childhood deaths (Fingerhut

and Kleinman, 1989). Recent national health statistics (1991) show that over 64% of all deaths of children are due to external causes, with over 18% the result of homicide (NCHS, 1994). Today, homicide is one of the leading causes of death for children under 18 years of age.

Although homicide in general is widely researched, few studies focus on child homicide. Empirical evidence supporting causal relationships found among adult homicide risk factors is not generalizable to child homicide. Both parental offenders and characteristics such as cause of death, age of child, and time and place of injury, suggest risk factors vary from those found in adult homicides (Kaplun and Reich, 1976; Christoffel et al., 1983; Jason, 1983; Muscat, 1988; Goetting, 1990). Risk factors occur before the incidence of violence and are associated with an increased level of risk. Knowledge about the risks and the unique circumstances surrounding child homicides is limited.

Research data invariably show two major categories of child homicide. Separate categories help to explain the victim and offender relationships common among most child homicides (Jason, 1983). The first category, intrafamilial homicide, usually involves younger children (under 10

years of age) who are murdered by a caretaker. The caretaker, most commonly a parent or substitute parent, is responsible for the well-being of the victim at the time of death. A child's death is often the result of, or related to, abusive or neglectful behavior (Kaplan and Reich, 1976; Fein, 1979; Jason, 1983; Anderson et al., 1983; Krugman, 1985; Hollander, 1986; Plass, 1993). In less typical intrafamilial homicide incidents the perpetrator may be a relative other than a parent, an acquaintance to the family, or a hired day care person. Researchers have speculated that child abuse and neglect may be major contributing factors in the high proportion of child homicides (Fein, 1979; Miller and Block, 1982; McCurdy and Daro, 1993). National data also suggests that a strong link between child abuse and neglect and child homicide exists. Statistics for 45 states reported that over 10% of the total child abuse cases in 1991 were fatal (NCAND, 1993).

The second category of child homicide, extrafamilial homicide, typically involve older children between the ages of 11 and 17 years. The victim and offender relationship often involves adolescent peers, or other acquaintances, and more rarely, strangers (Jason and Andereck, 1983). The death of a teenager is often the

result of criminal, illegal drug, and/or gang related activities or conflicts.

Although intrafamilial child homicides have historically, occurred more frequently, extrafamilial homicides are a growing problem among adolescents involved in illegal drug or street crime activities (Fein, 1979; Miller and Block, 1982; McCurdy and Daro, 1993). Since the 1980s, national health statistics show extrafamilial homicide to be the leading cause of death for black, males, between 15 and 19 years of age (Christoffel, 1990).

In summary, violence against children has always been a societal problem, although, in recent years, the level of violence has become more serious (Berg, 1987). Of the two categories of child homicide, intrafamilial homicides have typically been more common; however, with the rise in urban street violence, extrafamilial homicide rates are rapidly increasing. Although, the full extent of the violence problem is not clearly reflected in current child homicide research. As homicide rates for children continue to rise, empirical research remains limited. Insufficient empirical evidence restricts our knowledge to mere speculation, and limits the development of effective prevention. The current study attempts to present a detailed empirical analysis of both categories of child

homicide using child fatality review team data. An extensive group of variables is examined to validate support for specific risk factors of child homicide.

## 1.2 Status of Current Literature

The literature has only recently begun to address child homicide. Most of the research is generated by the medical and psychological disciplines. Little attention is given to the social and criminological aspects of child homicide.

Various definitions are used to explain the unique victim and offender relationships, and the age specific victimization of children. Child homicide research typically focuses on either intra- or extrafamilial homicide, with the majority focusing on intrafamilial. Researchers have only speculated that risk factor differences exist between each category of child homicide; there is no empirical evidence to support factors that place children at greater risk for either category of homicide. Little is known about the circumstances leading to a child's death. Most research does not attempt to describe the circumstances or define actual or potential risk factor patterns of child homicide. There is no supportive evidence to explain risk factor relationships.

The underlying assumption is that any one of these factors can increase a child's fatality risk.

Most child homicide studies rely on case study descriptions of basic offender patterns. Of more than 50 published research studies on child homicide, all but seven are strictly descriptive case studies. Qualitative research cannot support any specific hypotheses by establishing association or making causal inferences about selected variables. Prior research has helped establish a strong foundation for studying child homicide. However, there are specific research questions that need addressing that prior research has ignored. Because of the prior qualitative research, we have a better understanding of what direction to take more scientific approaches for future research. Future research questions should address specific individual, family, and environmental factors to learn about which high risk predictors are most prevalent to child homicides. Questions should also address the specific circumstances unique to child homicide incidents, and establish causal relationships between risk factor variables.

Most child homicide studies that employ any form of scientific procedure appear to suffer from methodological limitations. Some methodological limitations include, the

inability to define and separate out intra- versus extrafamilial homicide incidents in a data sample. Inadequate data sources, poor sampling procedures, and weak research designs limit the quality of research. As a result, most current child homicide research is limited in its empirical analyses and methods of design. (A complete review of the literature and a discussion of the methodological limitations is discussed in chapter 2).

### 1.3 Child Fatality Review Teams

This study uses Child Fatality Review Team data that includes multiple agency data sources. The comprehensive data collection procedures used by a child fatality review team greatly enhances the quality of data. The review team data facilitates the exploration of causal relationships among risk factors common to child homicide incidents.

Multiple agency Child Fatality Review Teams have slowly emerged in response to the increasing awareness of severe violence against children in the United States. Since 1978, when the first team originated in Los Angeles, California, over 44 state level Child Fatality Review Teams have been established across the nation (Durfee et al., 1992). Team membership is dependent on multiple

agency participation. Team members from various public institutions - social, medical, legal, forensic, educational, and research agencies, have joined together to establish Child Fatality Review Teams.

The initial mission of most review teams has been to develop open communication among public agencies concerned with the welfare of children. If agencies share case information, deaths may be avoided or at least more accurately classified. Moreover, opening communication lines among various agencies facilitates identifying and protecting the deceased child's siblings and other family members, who may be at risk.

The development of Child Fatality Review Teams, is also in response to the vast problems with intra- and interagency recordkeeping and inadequate databases. A long term goal of Child Fatality Review Teams is to develop a database that would provide more accurate information to all agencies involved in the welfare of children. A central database that provides sophisticated knowledge on the patterns and trends from past incidents would be developed. The data could then be used to evaluate and identify problem areas in a community, families at risk, and to help prevent the misclassification of deaths. More accurate

classifications of childhood deaths may enhance the identification of intentional injuries and neglectful harm to children, which may prevent future deaths, injuries and neglect.

Multiple agency data collected by the Child Fatality Review Teams will improve future child homicide data sources, and as a result, improve child homicide research, and prevention. An ultimate goal of review teams is to develop intervention strategies and prevention measures for children at risk. The State of Maryland established a review team and began reviewing childhood deaths in 1991. However, the Maryland team has just begun developing a database with multiple level data. (A complete discussion of the Maryland Child Fatality Review Team is presented in chapter 3).

#### **1.4 Purpose of Study**

The purpose of this study is to explore and compare the relationship of risk factors between child homicide and child abuse and neglect. The association of multiple level risk factors, such as individual, family, and socio-cultural, need to be compared between child homicide and child abuse and neglect (Biller and Solomon, 1986). This study explores multiple levels of risk factors, which

include individual, family, and community level factors. (Specific risk factors are discussed in chapter 4 - Research Design). This study examines empirical evidence of risk factor relationships associated with each category of child homicide. Risk factors most prevalent in child homicide are compared with risk factors common to child abuse and neglect. Also, risk factors are structured into multidimensional models to establish any causal implications for both child homicide categories and child abuse and neglect.

This study departs from other child homicide studies in several ways. First, this study uses a comparison group of child abuse and neglect data. The comparison group is a representative sample of typical victims of abuse or neglect residing in the City of Baltimore, Maryland. None of the previous child homicide research has employed a child abuse and neglect comparison group.

A second departure of this study is that it employs the total population of child homicide victims in the State of Maryland between January 1993 and June 1994. All of the child homicide cases are reviewed and/or autopsied by the State of Maryland Medical Examiner's office. Most prior research employ small samples of child homicide cases that usually target a particular age group.

Finally, this study improves upon previous child homicide studies by employing multiple agency child homicide data. Multiple agency Child Fatality Review Team data incorporates all forensic, medical, legal, social, and education data relating to a specific homicide. Child Fatality Review Team members review all homicides to ensure a full investigation and that all details are documented. No existing research has analyzed child homicide incidents using Child Fatality Review Team data.

#### **1.4.1 Objectives of study**

First - This study identifies differences in risk factor patterns between two categories of child homicide, intrafamilial and extrafamilial homicides. Risk factors are categorized into three broad categories, 1) Individual factors: age, race, gender (victim and offender profiles), victims' relationship with offenders, victim and offender drug use, and birth order position of victim; 2) Victims' Family factors - marital status of parents, socioeconomic status, family size (number of children), and prior history of abuse or neglect of victim and their siblings, and 3) Community Factors - place of victims' residence, economic status of community, population under 18 years of

age, racial distribution of community, and population living in single parent households.

Second - Using the same risk factors listed above, this study identifies differences in risk factor patterns between child homicide and child abuse and neglect incidents. The major assumption is that certain patterns of risk factors will be more prevalent in child homicide incidents rather than in child abuse and neglect.

Third - based on descriptive statistics for risk factors, further examination of the data is performed to show and explain the association of statistically significant risk factors for child homicide. To determine whether any causal relationships exist among risk factors, multidimensional prediction models are used.

Fourth - This study enhances our knowledge about the circumstances leading to child homicide and child abuse and neglect. Facts about specific causes of death and injury (i.e., gunshot wound versus suffocation; and use of blunt instrument versus malnourishment), and details of the circumstances of death are compared with the circumstances of child abuse and neglect incidents. Variables compared include - time and place of death or injury, drug related injury, type of weapon used, and number of victims. This study also classifies child

homicide data by cause of death, and child abuse and neglect data by type of injury.

Fifth - based on the findings, this study develops valid conclusions for both theoretical and policy building strategies. By identifying statistically significant risk factors of child homicide a framework is developed, in the way of prevention strategies and much needed public policy development.

#### **1.4.2 Research questions**

1. Are there different risk factor patterns between intrafamilial and extrafamilial child homicides?

- a. What specific individual level risk factors will be different? i.e., age, gender, race, (victim and offender profiles, victim and offender relationship, birth order of victim, and offender drug use.
- b. What specific family level risk factors will be different? i.e., marital status, socioeconomic status, family size, and prior history of abuse.
- c. What specific community level risk factors will be different? i.e., place of victims' residence, percent of the population living in single parent households, percent of the population under 18

years of age, percent of the population who are nonwhite, percent of the population who are living below poverty level.

2. Are there different risk factor patterns between child abuse and neglect and child homicide incidents?
  - a. Are individual level risk factors different between child abuse and neglect and child homicide?
  - b. Are family level risk factors different between child abuse and neglect and child homicide?
  - c. Are community level risk factors different between child abuse and neglect and child homicide?
3. What are the significant risk factors for predicting child homicide and child abuse and neglect?
4. What are the unique causes and circumstances of death or types of injuries?
  - a. Type of injury, i.e., gunshot wounds, beatings, fire, strangulation, stab wounds, and malnourishment.
  - b. Circumstances, i.e., time, place, drug related, type of weapon used, and number of victims.

In summary, the purpose of this study is to explore and explain the relationship of risk factors between child

homicide and child abuse and neglect. A risk focused, approach seeks to eliminate or reduce the effects of identified precursors of violence. The risk focus of this study is a prospective approach that provides knowledge necessary for preventing future violence.

### 1.5 Limitations of Study

The initial intention of this study was to employ a comparison group consisting of State level child abuse and neglect data. However, the State of Maryland, Department of Social Services, currently does not have a statewide computer network system for maintaining client records. The only county or city within the State of Maryland operating on a Child Protective Services computer network system is the City of Baltimore. The other twenty-three (23) counties maintain traditional recordkeeping procedures that require using manual file numbering systems. Every county operates independently from the other counties, there is no standard record filing or numbering system. Also, all county level records are stored at multiple satellite offices throughout each county. Files are in the custodial care of the social worker assigned to the case. Therefore, it was not possible to compile a Statewide data sample that would

identify each social worker, office location, and county. For these reasons, it was not possible to develop a statewide accountability of all child abuse and neglect cases by county file numbers. As a result, a statewide comparison group could not be constructed for this study. The comparison group for this study includes 210 child abuse and neglect cases randomly selected from Baltimore City, Child Protective Service (CPS) records.

This study includes the following chapters:

#### Chapter 2 - Review of Previous Research

This chapter discusses the definitions and historical context of child homicide incidents. A review of the studies that focus on child homicide is included in this chapter. A summary of the methodological limitations of the current literature is also discussed.

#### Chapter 3 - Child Fatality Review Teams

A thorough historical and methodological explanation of Child Fatality Review Teams established across the country in over 44 states is discussed. Specific reference is made to the State of Maryland Child Fatality Review Team history, goals, and data collection and case review procedures.

## Chapter 4 - Research Design

A detailed discussion of the research plan and the methods used to analyze the data is provided. Included in this chapter is a discussion about the three data sources, 1) child homicide data, 2) child abuse and neglect data, 3) census data. A discussion detailing the variables and statistical procedures used to measure the variables is also included in this chapter. The dependent variables include a binary variable for both types of child homicide, intrafamilial and extrafamilial, and a variable for child abuse and neglect. Also, the development of multiple logistic regression models is explained in this chapter.

## Chapter 5 - Results

The results of the study are presented and described in relation to each research question addressed in this study.

## Chapter 6 - Summary and recommendations

A discussion of the findings in relation to existing theories and policies are included in this chapter. Also a brief summary of the study, and recommendations for future research and policy are discussed.

## CHAPTER 2. LITERATURE REVIEW

This chapter reviews current child homicide literature in a historical context and discusses methodological limitations. The literature review is divided into two sections. The first section has three subsections, 1) definitions used in describing child homicide; 2) historical and background literature on intrafamilial homicides; and 3) historical and background literature on extrafamilial homicides. The second section addresses methodological issues relevant to current child homicide literature. Based on methodological limitations of the current research, the second section has four subsections, 1) availability of data sources; 2) sampling procedures; 3) research design; and 4) measurement issues.

### 2.1 Section I

#### 2.1.1 Definitions

The term "child homicide" includes all intentional or neglect provoking deaths of children less than 18 years of age caused by another person. Throughout history, many terms have been used to define or describe child homicide and their unique victim-offender relationships. Definitions have been used to identify specific

circumstances, explain age specific incidents, or to describe the unique victim and offender relationships. A review of the most widely used terms is discussed below.

One of the first terms used in research to describe child homicides was "infanticide". The term infanticide, was used to describe the death of an infant; a child killed in the first year of life. The act of infanticide has often been a solution to poor economic conditions, poverty, and/or starvation. It was an accepted practice in many cultures and societies around the world before the 1800s. Some of the earliest recorded incidents of infanticide date back to the 7th Century B.C. when the Chinese experienced extreme impoverishment (Breiner, 1990). In most early civilizations, infanticide was not considered a crime (Kukull, 1977; Parker and Good, 1981). While intentional death was quite common for infants and not treated as a crime, the murder of an older child was a serious crime and punishable by death of the offender. Early research indicates there were few recorded incidents of child killings outside the category of infanticide (Breiner, 1990). The research on infanticide dominates the literature on child homicide right up to the 1960s.

A second common term linked with the child homicide literature is "neonaticide". Neonaticide is the

intentional death of a child less than 24 hours after birth (Myers, 1970). Most neonaticides have been committed by the birth mother and have not been considered a crime. The practice of neonaticide has been an accepted form of infanticide and was not considered a crime until the 20th century. Historically, neonaticide was used as a means to control the population; a practice widely supported in countries like Greece and China (Breiner, 1990). Recent incidents of neonaticides have been the result of poor economic and social circumstances (Resnick, 1970; Christoffel et al., 1983). Research is limited in this area of child homicide because most data sources do not separate out infant victims less than 24 hours of age. For example, the Federal Bureau of Investigation (FBI), Uniform Crime Reports (UCR) only distinguish infants by less than a week, or more than a week but less than one year (FBI-UCR, 1992).

A third term common to the child homicide literature is "filicide". The term filicide is used to clarify the victim and offender relationships common to child homicide incidents. Filicide is a term used to describe the homicide of children by a parent (Resnick, 1969; Myers, 1970). There are at least five categories of filicide that attempt to explain parental murdering of children (at

least 24 hours of age). The categories are 1) Altruistic Filicide - to relieve a child from the suffering of an illness; 2) Acutely Psychotic Filicide - a result of a parent who is under the influence of hallucinogenics or delirious; or experiences epileptic or schizophrenic psychosis, 3) Unwanted Filicide - illegitimate children who are no longer wanted; 4) Accidental Filicide - a result of child abuse or neglect; and 5) Spousal Revenge Filicide - this is a deliberate attempt to make the other spouse suffer (Resnick, 1969). Parental homicide of children is the most widely studied victim and offender relationship in both historic and current literature.

Additional terms have been used to describe the circumstances surrounding the cause of a child's death. Terms such as "subtle fatal child abuse" describe abuse or neglect that has left no anatomical evidence indicative of the true cause of death (Zumwalt and Hirsch, 1980; Christoffel et al., 1981; Krugman and Peterson, 1985). Fatal child abuse describes physical or sexual assault; and fatal child neglect describes a lack of proper care or supervision that may cause the death of a child (Nixon et al., 1981).

Current literature has shifted away from using such terms as infanticide, neonaticide, and filicide. As

discussed earlier, there are generally two categories or terms used to describe child homicide incidents today. The first, intrafamilial child homicide, is usually the result of child abuse or neglect and is perpetrated by the victims' caretaker. Victims are often less than 10 years of age; however, the majority tend to be less than five years of age (Christoffel, 1990). The second category, extrafamilial child homicide, is generally associated with street crime or illegal drug activities and is most common among adolescent peers. Victims and offenders are most often older than 10 years of age, with the majority between 14 and 17 years (Jason, 1983). Some of the literature uses the term "Gang Homicides" to refer to extrafamilial child homicides (Curry and Spergel, 1988).

A third type of child homicide are those that involve strangers who murder children. Homicides involving strangers are the most publicized by the media, and the most feared by parents. However, child homicides involving strangers are typically very rare incidents. Therefore, this study will not examine the stranger child homicide category as a separate category, stranger homicides are included within the extrafamilial child homicide category.

Also included in the extrafamilial homicide category

are "justifiable homicides" by the police. With the increase in adolescent street crime and illegal drug activities there is also an increase in police shootings involving adolescents. Justifiable homicides generally involve the victim fleeing from the scene of a crime when shot by the police. The victim is considered a suspect of criminal activity which initiates the police pursuit. Because the victim-offender relationship does not involve a caretaker, such incidents are placed in the category for extrafamilial child homicide, and will be treated the same as other extrafamilial incidents.

### **2.1.2 Intrafamilial Homicide Research**

While studying the severity of child abuse and neglect in the 1950s, Dr. Henry C. Kempe (a pediatrician) and his associates completed one of the first studies that recognized child homicide as a major issue. The authors discovered hidden pathological information relating injury incidents closer to child abuse and neglect. They found that a large portion of severe child abuse and neglect incidents lead to child fatalities. This was the first public acknowledgement that fatal child abuse and neglect are a growing problem.

Kempe and his colleagues (1962) identified several major factors evident in most fatal child abuse or neglect cases. For example, they found that most victims are less than three years of age, and most perpetrators are the caretakers - parent or guardian, of the victim. Also, most injuries are internal and difficult to detect during an external anatomical examination. They also discovered that fatal abuse and neglect are not restricted to the lower classes. Kempe and his associates were surprised to discover that fatal child abuse and neglect are widespread throughout the general population. Kempe and his associates also found a high rate of failed marriages among child abusing families. Although the study did not provide empirical evidence or support for the detection of potential victims, their work is important for practical purposes. Kempe and his colleagues are responsible for modeling the child abuse law that has gradually been adopted by every state in the nation<sup>1</sup>. Their work also affects medical reporting strategies and proposes a medical model for treatment of child abusers. The results of their work capture the attention of Americans and influence further investigation and interest in child

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<sup>1</sup>Prior to 1964, there were no effective child abuse reporting laws.

homicide research. What followed was the publication of over forty-five qualitative child homicide studies generated by the medical sciences. These studies focus on the medical detection and appropriate identification of specific injuries, and also forensic and pathological indications for classifying a death. The medical studies lead the way in building a foundation for child homicide research. Medical researchers speculate about the relationship between child homicide and child abuse and neglect, characteristics of victims and offenders, types of fatal injuries, and environmental factors (Myers, 1970; Christoffel et al., 1981; Blaser, 1983; Jason, 1984; Paulson and Rushforth, 1986; Zumwalt and Hirsch, 1987; Winpisinger, et al., 1991). Although it seems plausible that most intrafamilial homicides are linked with abusive families, there are no empirically tested relationships of the specific variables linked with child abuse and neglect.

Lester Adelson's 1961 study is one of the first to explore child homicide data. He too discovers that hidden elements of fatal child abuse go unnoticed without the assistance of an autopsy. Adelson emphasizes how long term abuse may not be readily apparent until the point of an autopsy. He also stresses how a young child is unable

to reveal the details of the incident(s) leading to their abuse and ultimate death. This study, as well as other early studies have led to national policy changes requiring full autopsy investigations for all deaths involving children. The requirement of medical examiner investigations in the death of all children has enhanced the quality of knowledge, upgraded the classification of homicides, and increased the quality and availability of data. Adelson (1961) also emphasizes that the circumstances, motive, and intent of death involving children vary from adult homicide incidents. Most adult homicide literature is not generalizable to children, also, most homicide research does not include child victims. For example, a major study involving race, socioeconomic status and homicide only analyzes cases involving victims 16 years and older (Centerwall, 1984). Certain child homicide sociodemographics (Straus, 1987), environmental factors (Adelson, 1961), geographic distributions and trends (Goetting, 1990), may be different from adult homicides.

Some studies make assumptions about risk factors that appear to be common among child homicide victims. For example, distinctive social profiles of child homicide appear to be dependent on the age of the child. Age is a

factor that appears to be closely associated with intrafamilial homicides. For example, the younger the child the more likely the perpetrator will be a parent. Much of the research shows that children less than four years of age are overrepresented among intrafamilial homicide victims (Zumwalt and Hirsch, 1980; Jason et al., 1983; Jason and Andereck, 1983; Krugman, 1985; Schloesser et al., 1992; Plass, 1993). Perhaps because younger children are physically more vulnerable and socially isolated, they are at greater risk of intrafamilial homicide. Biller and Solomon (1986) suggest that the younger a child the less likely previous abuse or neglect will be reported or that the victim will retaliate.

Most studies focus on a particular age group when examining intrafamilial child homicides. For instance, a study using Australian death records sampled only victims less than five years of age and omitted all of the older deceased children (Nixon, et al., 1981). Although this study provided useful and adequate information regarding the younger children, it did not provide any information regarding older child homicide victims. Few studies look at all age groups and make comparisons regarding the circumstances leading to death. In fact, most studies vary widely when sampling on age; suggesting there are

major differences between age groups and risk of homicide. Limiting data by age group may bias the results and prohibit making generalizations.

The gender of the victim only seems to be related to extrafamilial child homicide incidents. Most of the research suggests that males are the most vulnerable victim, as well as the most common perpetrator in extrafamilial homicide (Curry and Spergel, 1988, Goetting, 1990). However, gender does not appear to be a factor in intrafamilial child homicide incidents. Most research suggests that both male and female victims are at the same level of risk (Goetting, 1989, Plass, 1993).

Another factor identified in recent research focuses on the birth order position of the victim. Some studies report that the victim is most likely to be the only child in the family (Smith, 1989), especially when examining extrafamilial child homicide victims. There are discrepancies in the research in that other studies support that victim's are more typically the child of a large family (Curry and Spergel, 1988). The intrafamilial homicide research suggests that the victim is most often the last born child in the family (Schloesser et al., 1992). These discrepancies in birth order position of the victim warrant further research.

Winpisinger and her colleagues (1991) examined family factors that link mothers' characteristics with child homicide. The risk factors examined were race, marital status and education of the mother at the time of victim's birth, mother's age, and birth defects. The authors were interested in the association between the birth of a child to an unwed mother and the risk of being killed. Although they do not examine causal relationships the data show a strong association between the birth of a child to an unwed mother and the risk of homicide. Most intrafamilial child homicide research is directed toward victims' mothers, as both the primary caretaker and the offender.

The victim and offender relationship may be a key factor in determining the level of risk of a potential victim. Historically, children have been at the greatest risk in their own home, especially when the child is less than one year of age. Only one child homicide study examines male caretakers as the perpetrator. The study examines fathers or substitute fathers who are the offenders and specifically selects only those cases involving male offenders (Scott, 1973). However, the 29 cases examined cannot be generalized to all child homicides. Male parent/guardian offenders are a major group overlooked by child homicide research. Current

research can only speculate that mothers are the most common offenders because research only examines female offenders (Myers, 1967; D'Orban, 1979; Weisheit, 1986, Silverman and Kennedy, 1988). Substitute fathers are often targeted as offenders in child abuse and neglect cases (Ammerman and Hersen, 1990), suggesting that male caretakers may be a factor in child homicide research.

Several studies address social structural factors and their relationship to intrafamilial child homicide. The current research has shown a strong relationship between child homicide and measures of poverty (Boone, 1982; Jason et al., 1983; McDowall, 1986). Although child homicides occur at all levels of the socioeconomic spectrum (Kempe et al., 1962), research findings suggest that they are more likely to involve lower socioeconomic families. Several studies show that the rates of child homicide occur more frequently in areas characterized by poverty, racial minorities, and urbanization (Abel, 1986; Christoffel et al., 1983). These studies suggest that certain social structural factors increase the risk of child homicide and that the rates of child homicide are not randomly distributed.

Fiala and LaFree (1988) examine social structural factors in a cross-national study of child homicide using

1974 World Health Organization (WHO) data. The social structural factors examined were economic stress, social disorganization, culture of violence, and social isolation. Comparing 22 less developed nations with 18 more developed nations, they found that none of the social structural factors predicted child homicide in less developed nations. However, low levels of government spending on social programs, high proportions of women in the work force, and low proportions of women in college and professional occupations were associated with high child homicide rates in the more developed nations. To further support these findings, Gartner (1990) expanded the WHO data to include 19 years (1965-1984) of data and found similar patterns. Gartner points out that welfare spending and females in the labor force link child homicide to economic stress, social isolation, and lack of social support.

Gartner (1991) expands the research further when she examines family characteristics, welfare spending, and child homicide. In this study, family characteristics are defined as one of the following: proportion of births to unmarried mothers, proportion of births to teenage mothers, number of children under five per 100 women aged 15-45, and the crude divorce rate. Using 15 years of WHO

data analyzed in five year intervals, Gartner aggregated measures of family structure conditioned by the level of government spending on social programs (i.e. social security expenditures). She found statistical significance for each of the family characteristics. This study shows that where government spending on social programs is low, child homicide rates increase based on the prevalence of mothers who are single, teens, divorced, employed or who have many young children. Cross-national studies have been successful at measuring ecological relationships with child homicide. What these studies suggest is that risk factors should be measured at the individual level to find out if they will show similar patterns. They clearly express the need for detailed victim and offender data for use in future child homicide research.

### **2.1.3 Extrafamilial Homicide Research**

Historically, extrafamilial child homicides have been rare occurrences in most societies. In the United States evidence of a major extrafamilial homicide problem erupted in the 1980s. Prior to the 1980s most victims were the result of intrafamilial child homicide. Since the 1980s, the rates of teen deaths, or gang homicides relating to

street crime and illegal drug activities, continue to be a growing phenomenon in this country. Today there is a new level of risk for adolescent children out in the streets. However, extrafamilial child homicide research is still in the preliminary stages of development. The bulk of the literature focuses on the offender rather than the victim.

Wolfgang and Ferracuti's "subculture of violence" theory (1967) attempts to explain subcultural values and norms, and environmental factors. They identified a subculture of violence in certain areas of the nation that support norms separate from those of the dominant parent culture. The authors tested this theory while examining homicide patterns in Philadelphia. They found that children exposed to a violent subculture come to accept violence as a normal response to interpersonal and social conflicts<sup>2</sup>.

Some critics suggest that the levels of violence accepted within a culture are reflected in the levels of violence directed at children. The violent subculture in

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<sup>2</sup>"Lower class boys, for example, appear more likely to be oriented toward direct expression of aggression than are middle class boys. The type of punishment meted out by parents to misbehaving children is related to this class orientation toward aggression. Lower-class mothers report that they or their husbands are likely to strike their children or threaten them..." (Wolfgang and Ferracuti, 1967, p. 154).

which the child is raised increases their risk for future victimization (Wolfgang and Ferracuti, 1967). The theory suggests that violent teens will attack others similar in age, race, and economic status who share their cultural values. Erlanger (1979) found some correlation between family social class and physical child discipline, but added that it was not strong enough to be of great theoretical significance. Current research has not examined the relationship between sociocultural factors and extrafamilial child homicide in comparison with child abuse and neglect (Biller and Solomon, 1986).

Wolfgang and Ferracuti's research (1967) found that violence rates are highest in urban areas that support teenage gangs whose members engage in violence. However, there is no extrafamilial homicide research that addresses whether homicides occur in neighborhoods with high rates of reported child abuse and neglect. However, based on the subculture of violence theory multiple levels of risk factors need to be examined when studying child homicide.

Although there is some disagreement (Hirschi, 1969; Erlanger, 1979), it seems plausible that there is some association with the circumstances of extrafamilial child homicides and the subculture of violence theory. Whether abuse and neglect are direct or indirect factors

associated with extrafamilial child homicides are an issue never addressed in research. Child abuse as a social indicator for the quality of life of families in a particular neighborhood is a matter of interest both theoretically and practically (Garbarino, 1981).

Three common elements of extrafamilial child homicides are that victims and offenders are of similar age, gender, and race. Much of the research shows that black, male, urban, adolescents are overrepresented among drug related street murders (Sorenson et al., 1993; Plass, 1993). Victims and offenders are most often acquaintances through their illegal activities (Goetting, 1989; Harries, 1993).

Studies measuring race consistently show a disproportionately higher number of minority homicide victims (Silverman et al., 1990; Plass, 1993; Sorenson et al., 1993). The National Child Mortality statistics suggests that homicide is a leading cause of death for black children between 15 and 19 years (Fingerhut and Kleinman, 1989). The only empirical analysis on race is a cross-national study that compares two jurisdictions (Chicago and Ontario) for patterns of racial differences in murdered children (Silverman et al., 1990). Their findings are the same as those from earlier studies,

blacks died at a much higher rate (almost nine times) than for whites in Chicago. Older black children were most often killed by a nonfamily member. These deaths appear to be closely linked with gang activity and perhaps drugs, however, neither of these elements are controlled for in this study. This macro-level study could not respond to specific family factors, social inequality or the general effects of a subculture of violence. Individual level analyses have not examined the circumstances that surround child homicide incidents (Silverman et al., 1990). Research has not included the examination of family factors, sociodemographic or environmental factors and their connection to victim and offender relationships.

A category of extrafamilial child homicide overlooked by researchers involves sibling homicides. With the growing number of adolescents involved in homicide, there is concern that sibling homicides are increasing in rate (Wilson, 1993). Currently there are only two exploratory studies that address this issue (Rowley et al., 1987).

## 2.2 Section II - Methodological Issues

Although several attempts have been made to identify relevant risk factors for child homicide victims, most have not been very successful. Most child homicide

studies rely on case study descriptions of basic victimization patterns. Out of more than 53 published academic studies on child homicide all but seven are strictly qualitative case studies. Although some current studies employ more empirically based methods, each of those studies suffer methodologically. Four major areas of methodological limitation include: 1) availability of data sources; 2) sampling procedures; 3) research designs; and 4) measurement problems. Each methodological limitation is discussed in the following four subsections.

#### **2.2.1 Availability of Data Sources**

Access to reliable data sources has restricted the quality of child homicide research. Similar to child abuse and neglect research, in the past many believed that inquiries involving the death of children should be restricted to social and medical practitioners to protect the victim. As a result, most data regarding the victimization of children remains buried within bureaucratic systems. Public agencies have traditionally operated under policies that restrict access to any family or child oriented issues. These policies date back to a time when society believed family issues should not be resolved by government, but more privately through medical

and social service agents. Such practices have been resistant to change and slow to update, and have greatly limited data resources for studying child homicide and child abuse and neglect.

Intrafamilial homicides are not identified through traditional data systems. National level statistics do not distinguish victim and offender relationships common to intrafamilial homicides. The national level arrest data collected by the Federal Bureau of Investigation-Uniform Crime Reporting System, do not include information specific to the victim and offender relationship (FBI-UCR, 1992). The Uniform Crime Reports do not separate out the family issues surrounding the death of children. Data must be collected at the state or local level to examine these relationships.

Most studies rely on public agencies for documentation of child homicide incidents. Data collected from public records are often incomplete, subjective, and inaccurate. Death classification problems have also been of major concern for several decades. Agencies may underrecord fatal child abuse cases or intentional injury cases due to reporting categories of accidental and unknown deaths, and the misclassification of the cause of death (Jason et al., 1983; Straus, 1987; Durfee et al.,

1992). For example, a fatal child abuse incident may be missed because it is classified as an accidental death. Historically, classification procedures have not been consistent across agencies, and jurisdictions.

Outdated statistics is another major problem with child homicide data. Mortality data are not collected on a regular basis and are generally several years old. Also, data sources often involve a small number of cases, which do not include a complete homicide population. Working from incomplete data sources eliminates the possibility of randomizing and may create an element of bias.

### **2.2.2 Limited Sampling Procedures**

A common problem among child homicide studies is the inadequate methods used for selecting cases to be analyzed. Most current studies use incomplete data sources, which are not randomized, and not representative samples of the total population. Although random selection is not imperative, randomizing makes it possible to generalize the findings to a larger population. The one study that looks at place of residence is not generalizable to the larger population. The subjects are drawn from an urban, predominately black location

(Detroit), with a high homicide rate (Goetting, 1990). Another problem with most child homicide data is the selection of specific victim age groups. For instance, most victim-offender studies suffer from sampling bias because they only examine cases that involve low socioeconomic status mothers (Weisheit, 1986; Goetting, 1988). A random selection is never employed to examine cases from all social classes. As a result, an understanding of the role of parental characteristics is not available (Ammerman and Hersen, 1990).

Research that has examined family sociodemographics as predictors of child homicide (Resnick, 1969; Scott, 1973; Jason et al., 1983) often represent small samples not generalizable to the larger population. Descriptive studies offer weak explanations because of limited sample size and weak empirical techniques (Widom, 1989). Percentages measuring characteristic variables are not necessarily generalizable when using small nonrandomized samples. For example, in one study offender characteristics were profiled using only twenty-nine (nonrandomized) cases in which male guardians were charged with killing their children (Scott, 1973).

The child victim and caretaker offender relationship is one of the most studied areas of intrafamilial child

homicides. Both the relationship and offender characteristics have attracted a wide interest among researchers. Although most of the research suggests that the majority of offenders are the mothers of the victims, discriminating sampling methods prevent generalizing any of the results (Resnick, 1969; Kaplun and Reich, 1976; Goetting, 1986; Silverman and Kennedy, 1988).

Also, few studies use comparison groups. Weak sampling techniques and a lack of comparison groups question the significance of the results. Comparison groups would strengthen the empirical findings of studies that use a small number of cases. Comparison groups help to establish causal inference between independent and dependent variables. Testing a proposed causal relationship involves determining whether confounding variables exist. A comparison group also allows the experimenter to identify disturbance variables.

### **2.2.3 Weak Methodological Designs**

Out of more than 53 published studies involving child homicide most suffer from weak methodological designs. Most of the existing studies rely on case study description of victimization patterns. Although case study discussions have enhanced our knowledge about the

seriousness of violence against children, such studies are not scientifically significant. Most data in descriptive studies involve small data sets that are not adequate for any adept statistical analyses (Scott, 1973; Krugman, 1985; Goetting, 1988; Muscat, 1988;). One study found a direct correlation between homicide rates and the degree of urbanization and poverty level of the community of residence. However, only eight child homicide cases were available in the data source (Scott, 1973). The study did use a comparison population needed for comparing results and usually involve a small number of cases. The relationships between and among specific variables have not been empirically tested by current studies.

It is difficult to use current child homicide research as a basis for comparing age because each study uses different age cutoffs to identify adolescents or youths. Some studies cutoff the age at 15 years (Goetting, 1989), Zimring (1984) compared victims less than 16 years, and Rowley et al. (1987) examined all victims under 18 years. Also, most research that examines socioeconomic conditions does not employ multivariate analysis and do not control for other factors. These studies do not provide strong foundations for building future research strategies.

#### 2.2.4 Measurement Limitations

Most of the current child homicide research employs aggregate level data. If the researcher analyzes group level data and attempts to focus on individuals, then the research findings will be inaccurately interpreted. Garbarino (1976) measures New York county homicide rates by county level socioeconomic characteristics. These characteristics are used to determine the level of murders committed by mothers. This does not, however, measure individual levels of abuse and socioeconomic characteristics. Group level SES data used to determine who commits murder, is an overgeneralization that can not be applied to individuals (Muscat, 1988). Census data may identify poor neighborhoods, but this is macro level data that overlooks specific individual characteristics (Christoffel et al., 1983).

The analysis of national homicide rates by gross national product (measures economic conditions) is not plausible. If the research agenda is to determine who or what is responsible for the violence, individual level data is necessary (Fiala & LaFree, 1988). In one study state level homicide rates were inaccurately used to determine individual level characteristics (Straus, 1987). Also, Justice & Duncan (1976) never identify the dependent

variable, and they do not explain how violence is determined. Therefore, there is no basis for their conclusions that life changes increase the amount of violence against children.

In some research, measurement models are flawed and information is not properly documented (Straus, 1987). Lacking are adequate indicators for categories of social factors, and the authors do not control for any disturbance variables (Straus, 1987). It is difficult to identify what the author is measuring and the results are often unclear when stepwise regression is used.

Winpisinger and her colleagues (1991) were unclear when explaining the results of their analysis. Information is missing regarding the variables and the methods used to measure the variables, and the relationship between the variables is questionable. In an early study of violence against children, the correlations of five indices to abuse were stated as statistically significant, but they were not confirmed in the results (Garbarino, 1976).

Kaplun & Reich (1976) briefly mention a confidence coefficient formula for a binomial distribution of a 90% probability the percentage would fall into a specific category. However, they never explain what was measured or how they came up with the 90% probability.

## Summary of Literature Review

A review of the literature indicates that previous child homicide research is almost nonexistent, and few studies demonstrate any systematic empirical investigation. Selective and discriminating sampling, in most studies, prevents generalizing to the larger population. Qualitative research cannot support any specific hypotheses by establishing association or making causal inferences about selected variables. However, previous research provides specific research questions and helps establish a strong foundation for studying child homicide. Based on the knowledge discovered through qualitative research we know what direction a more scientific approach should take.

Current research consistently includes many assumptions about predictors of child homicide, but actual empirical analyses of the data are rare. One recent book (1993) written on victim-offender homicide relationships barely acknowledges the childhood victim (Wilson, 1993). The bulk of early child homicide literature concentrates on psychologically based factors (Resnick, 1969) overlooking the socially based family and community issues. We know very little about the family structure, or community factors of the victims and their families.

Based on the subcultural violence theory we need to look at multiple level factors. Attributes based on multiple indicators (Wiersema and Pattavina, 1993), would provide a multidimensional approach for identifying child homicide risk factors. To clarify what the relationship is between child homicide and child abuse and neglect, we need to look at three levels of risk factors: socio-demographic, family, and community factors. The literature includes many assumptions about the risk factors of child homicide, but actual empirical evidence is either unavailable or it suffers from methodological errors. The underlying assumption is that any one of these factors can increase a child's fatality risk. The majority of literature focuses on descriptive patterns of victims, but little is known about the nature and causes of child homicide.

### CHAPTER 3. CHILD FATALITY REVIEW TEAMS

This chapter provides historical and methodological explanations of Child Fatality Review Teams (CFRT) established across the country. The child homicide data used in this study was obtained from the State of Maryland and Baltimore city Child Fatality Review Team Records. Therefore, a detailed account of the State of Maryland CFRT process is also provided, to demonstrate the advantages of using the data for this study.

Multiagency Child Fatality Review Teams have slowly emerged in response to the increasing awareness of severe violence against children in the United States. Since 1978, when the first CFRT was established in Los Angeles, California, over 44 Child Fatality Review Teams have developed across the nation (Durfee et al., 1992). The American Bar Association, Center on Children and the Law (1991) defines "Child Fatality Review Teams" as a group of people who meet to review child deaths, ideally all deaths of children below the age of 18 years. The CFRT is an active surveillance of childhood deaths. Such a team can be internal or external. An internal child review team reviews child deaths related to a particular agency. For example, the Child Protective Service Agency would only

review cases involving their former clients, the death of children who had contact with their agency before their death. An external review team does not limit its work to any one agency, but, considers the activities of all agencies. An external team membership generally consists of multidisciplinary and multiagency representatives. Memberships have included representatives from medical examiner/coroner offices, pediatric physicians, child protective service agencies, law enforcement, prosecuting attorneys, public health and mental health, education, Sudden Infant Death (SID) programs, domestic violence programs, and social scientists.

Teams have been established at two different geographical levels. Generally, there is a state level team, which has traditionally been responsible for establishing protocol for the review process to be used in that particular state. The State team mandates change and policy for the statewide local child review system. Local teams are established for the purpose of reviewing cases in a smaller area. For example, some states have established local teams at the county or city level. Local teams are required to follow the state established policies and procedures for reviewing cases.

Typically, the medical examiner provides the

multiagency team with an inclusive monthly listing of all child deaths. Members of the team check the names with their own records for prior agency contacts with the child or family. Monthly meetings are held to review this multiagency data and discuss details of suspicious deaths. Cases are investigated completely within the membership. Reviews may lead to criminal charges and prosecution, changes in classification of deaths, and intra-agency support for the surviving family members.

The primary justification for the development of a systematic review of child fatalities was based on a number of problems associated with childhood deaths. Several of these problems have addressed some very basic issues. For instance, prior to reviews we did not know the number of annual deaths of children or the accurate causes of their deaths (Durfee, 1989). We were unable to account for all the fatal abuse and neglect incidents on a national level, many states did not keep track of this data. The development of CFRTs is also in response to the vast problems with intra- and inter-agency communication, recordkeeping and inadequate databases. Death certificates have often reflected different causes of death from what is indicated by police or child protective service records. The value of multiagency inquiries of childhood

deaths is the identification of child abuse and neglect as a cause of death. Many so called accidental deaths are found to be linked with child abuse and neglect or the result of abuse or neglect. Without the review process many such deaths have gone unnoticed as anything more than an accident. To remedy these problems, Child Fatality Review Teams have been developed across the United States.

Review teams around the country have targeted numerous goals and objectives. An initial goal for most review teams has been to develop open communication between public agencies concerned with the welfare of children. The theory is that if agencies share case information, deaths may be avoided or at least more accurately classified. Also, opening communication lines among various agencies facilitates identifying and protecting the deceased child's siblings who are at risk. Other objectives have included improving the response and investigation of child deaths by all agencies involved in the welfare of children, educating the community in prevention, establishing protocol for health and social service agencies for reporting suspicious deaths, identifying the full extent of child homicides, and properly classifying the death of children.

A long term goal of Child Fatality Review Teams is to

develop an accurate child fatality database that would provide information to all agencies involved in the welfare of children. A central database that will provide sophisticated knowledge on the patterns and trends from past incidents would be developed. The data could be used to evaluate and identify problem areas in a community, families at risk, and help prevent the misclassification of deaths. More accurate classifications of childhood deaths may increase awareness about intentional injuries and neglectful harm inflicted on children, which may prevent future deaths. When teams begin to systematically examine child fatalities, more homicides will be discovered (Durfee, 1989). Multiagency data collected by the Child Fatality Review Teams will improve future child homicide data sources, and as a result, improve child homicide research, and prevention. Multiagency databases will more adequately portray the dimensions of childhood deaths (Kaplan, 1992). An ultimate goal of review teams is to develop intervention strategies and early prevention measures for children at risk.

Although team guidelines and procedures vary from team to team, many improvements have been made nationally, regarding the investigation, prevention, and information of child deaths. Review teams have recognized timely

## Maryland Child Fatality Review Team (CFRT)

In 1988 the Office of the Chief Medical Examiner (OCME), together with the Departments of Human Resources (DHR) and Health and Mental Hygiene (DHMH) established a CFRT for the State of Maryland. Initially the multiagency team met to discuss social and legal issues surrounding the death of children. They held several workshops and discussed strategies for investigating child fatalities. The CFRT outlined fatality case investigation procedures and guidelines for the police, child protective services, and the state medical examiner's office. Since 1991, both state and city teams have been involved in actual review and investigation of all deaths involving children less than 15 years of age. Agency representation at meetings always includes OCME, DHR, a pediatrician, and a SIDS specialist. At most meetings there is a police representative (usually a Homicide Unit detective), a representative from DHMH, and two researchers, one a trained public health and injury prevention epidemiologist, the other a criminologist.

The CFRT reviews deaths of children below the age of 15 years. Cases that involve children between 15 and 18 years are not reviewed unless the cause of death is suicide. However, CFRT data collection forms are

completed on all children under the age of 18 years. Although the team has been meeting on a regular basis since 1991, data has only systematically been collected since 1993. The team has just begun to develop a statewide child fatality database.

Today, the Maryland CFRT consists of a multi-disciplinary and multiagency membership. The Maryland CFRT has several major goals. The team investigates and establishes a cause of death in cases where the cause of death was unknown. It identifies possible child abuse and neglect related fatalities not previously reported to child protective services. The team recommends further police or child protective service investigations in cases suspected of abuse or neglect, and educates the public about prevention. The team also establishes policies and procedures for investigating child deaths, and keeps committee members informed of all current interagency policies and procedures.

There are two active teams, one is the State of Maryland CFRT, and the other is the City of Baltimore CFRT. The state team is responsible for developing the main mission and goals of all the Maryland based CFRTs, and setting the standards for reviewing and investigating all child deaths. The state team is also responsible for

establishing access to data sources within each of the agencies; developing and maintaining data collection instruments; overseeing the review and continued investigation of child fatality cases in all geographical areas except Baltimore City; and establishing strategies to enhance the investigation of child fatalities. An ultimate goal of the state team is to develop strategies and interventions for preventing future suspicious deaths. Also, to properly recognize deaths caused from abuse or neglect not otherwise identified.

The Baltimore City CFRT is a local membership established for the specific purpose of investigating Baltimore City child fatalities. The Baltimore CFRT is responsible for reviewing all child fatalities that occur in the city of Baltimore on a monthly basis. Baltimore CFRT members represent local agencies who generally are aware of any contact with the child or the family prior to death. Multiagency history involving deceased children are discussed at each review. CFRT recommendations are made to help in reducing mistakes in ascertaining the cause and manner of death. A recent recommendation (September 1993) was helpful in the revision of police procedures for SIDS death scene investigations. The death scene investigation provides an accurate documentation of

the scene in terms of environmental risk factors and risk factors associated with sleeping conditions. The new revisions require that police provide as much detail about the environment and specific location of a SIDS death. Full documentation, including a sketch and a written explanation, is forwarded to the medical examiner, and documented in the CFRT database.

The medical examiner now has more detailed information for distinguishing SIDS cases from abuse and other medical conditions that may have caused the death. With close investigation and sophisticated pathological testings many infant deaths are found not to be accidental. In cases that involve (subtle fatal child abuse) fatal head injuries, chemical assaults (poisoning), asphyxiation, drowning, and cardiac arrhythmia's, the death may not always be classified as a homicide. If the pathological examination is limited (nonanatomic evidence) then many times a child homicide is never uncovered (Zumwalt and Hirsch, 1980).

The State of Maryland CFRT plans to expand its membership to include a representative from the State Attorney General's Office, and also other health, education, and social service representatives. The state team will eventually move away from the twice monthly task

of reviewing cases, as additional local teams are established at the county level. The state team members are prepared to review the more difficult or pending cases once the local team completes their own investigation.

The team is currently developing a single child fatality database. The State CFRT has conducted several workshops with community members to review current data collection forms, determine the priorities for multiagency data purposes, and to discuss availability of resources for structuring a database system. The CFRT has also discussed expanding the database by eventually matching birth and death certificates together. Birth certificates include additional sociodemographic data not included on death certificates and often incomplete in both the social service and police records.

The current Maryland Child Fatality Review Team database is a comprehensive multiagency resource. The CFRT database consists of consolidated information extracted from each agency involved with the review process. Data is obtained from OCME records, local police department records, child protective service records, and hospital records (when applicable). A Data collection form has been developed by the State CFRT, to consolidate

multiagency information. A complete explanation of each data source included in the Maryland CFRT data follows.

1) Medical Examiner (OCME) Records

Data is extracted from Medical Examiner records. Each file contains an Autopsy report (external inspection and/or internal autopsy), medical facility report (when applicable), 24 hour police report (when applicable), OCME investigation report and notes, and a death certificate.

2) Law Enforcement Records

Police investigation reports that follow the initial 24-hour police investigation. Any information regarding arrest, or suspect(s), and interviews of family or witnesses, may be provided.

3) Child Protective Services (CPS) Records

Data is extracted from Department of Social Services, Child Protective Service records. When a death has been investigated or a member of a victim's family (to include the victim) has been investigated, CPS places a copy of the report in the victim's records. All previous contacts with CPS are filed in the victim's record. Rating forms

that identify risk level of the victim(s) are provided following each caseworker contact visit.

#### 4) Vital Statistics Data

Deaths of children under 19 years of age in Maryland during 1993, are verified through Vital Statistics, Department of Health.

#### 5) Child Fatality Review Team Data

Besides the data collected from the above sources, the CFRT also provides meeting notes concerning the specific cases discussed. Additional information is often gathered from members who have had further contact with the victim's family, or follow-up investigation of the death. If a change of manner or cause of death occurs, because of the CFRT investigation, the new manner or cause is corrected in the OCME records and the State Vital Statistics office is notified.

## CHAPTER 4. RESEARCH METHODS

This chapter describes the research design and methods of analysis used in the study. There are two sections, the first section describes the three data sources used in the study, and the second section states the research questions, describes the risk factor variables, and explains the methods used to measure each of the targeted research questions.

### 4.1 Data Sources

This study employs three major data sources: 1) 1993-1994 Child Homicide Data - State of Maryland Child Fatality Review Team homicide cases; 2) 1993-1994 Child Abuse and Neglect Data - City of Baltimore, Maryland, Department of Human Services, Child Protective Service substantiated child abuse and neglect cases; and 3) 1990 U.S. Bureau of Census Data - City of Baltimore, Maryland census tracts. A complete description of each data sample follows.

#### 4.1.1 Child Homicide Data

This study departs from previous child homicide studies by employing multiple agency child homicide data, collected by the State of Maryland Child Fatality Review Team. As discussed previously in chapter 3, Child Fatality Review Team data incorporates all incident based data from forensic, medical, legal, and social service records in the state under study. All death records are located in the State Medical Examiner's Office. Homicide cases are reviewed by members of the Child Fatality Review Team to ensure full investigation of the circumstances leading to a death, as well as detailed documentation. No existing research comparatively analyzes child homicide incidents using multiple agency Child Fatality Review Team data. Also, most prior research examines only a sample of child homicide cases, usually targeting a particular age group.

This study examines all child homicides in the State of Maryland that occurred over an eighteen month period, from January 1993 through June 1994. For this time period, there were 82 child homicide victims, less than 18 years of age, who died and resided in the State of Maryland. All unnatural child death incidents are reviewed by the State of Maryland, Medical Examiner's

**Table 1**

Child Homicides by Victim's Place of Residence

<u>Victim's Place of Residence</u>	<u>n</u>	<u>%</u>
Baltimore City	55	67
Anne Arundel County	2	2
Baltimore County	1	1
Cecil County	3	5
Frederick County	1	1
Harford County	1	1
Howard County	2	2
Montgomery County	2	2
Prince George's County	14	18
Wicomico County	1	1
Total	82	100%

office for either, or both an external or internal anatomical examination to determine the cause of death. Therefore, it can be assumed that all child homicides in the State of Maryland for this time period are included in this data set. Table 1 presents the distribution of homicide cases, based on the residence of the victim, across the State of Maryland. As shown in table 1, 67% of the victims resided in Baltimore city at the time of death, and 33% of the victims were dispersed among nine other counties throughout the State of Maryland.

Table 2 presents the distributions for both state and city homicide cases. The data are arranged into subsamples based on the two child homicide categories,

Table 2

Child Homicide Type by Place of Victim's Residence

	Intrafamilial	Extrafamilial	Total
Baltimore City	22% (12)*	78% (43)	100% (55)
Other Maryland Cities	56% (14)	44% (13)	100% (27)
Total	33% (26)	67% (56)	100% (82)

\*Number of cases in parenthesis

1) intrafamilial homicide, and 2) extrafamilial homicide.<sup>3</sup> Intrafamilial and extrafamilial homicides define the two dependent variables used in this study. As shown in table 2, the majority of child homicide cases are defined as extrafamilial homicide. Sixty-seven percent of the state homicides and 78% of the city are extrafamilial homicides.

#### 4.1.2 Child Abuse and Neglect data

This study also includes a comparison group of Child Protective Service substantiated (or confirmed) child abuse and neglect cases. Restricting the selection to

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<sup>3</sup>Three cases in this data set involved victims of justifiable homicide. They were killed by a police officer during the pursuit of criminal suspects. Each of the three cases were placed in the extrafamilial homicide category.

confirmed child abuse and neglect cases increases the reliability of the data. Reports of child abuse and neglect are not always confirmed following a Child Protective Service's investigation. As noted in Chapter 1, the intention of this study is to employ a comparison group consisting of State level child abuse and neglect data. The State of Maryland, Department of Social Services, do not have any means for collecting or accounting for statewide case files. Therefore, the study design for the comparison group had to be changed to city level child abuse and neglect data.

The data sample of 210 child abuse and neglect cases were systematically selected from Baltimore City, Child Protective Service records, for the same eighteen month time period as the homicide incidents; January 1993 and June 1994. The abuse and neglect cases were randomized using a sampling interval of every nineteenth case.<sup>4</sup> The statistically determined sample size was based on a 95% confidence interval to control for any error in estimating to the general population. These data are a representative

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<sup>4</sup>Cases could not be selected by the type of abuse or neglect involved. Physical, sexual, and neglect victims were all included in the sample.

**Table 3**

Baltimore City Child Abuse and Neglect Cases

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Case Type	n	%
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Physical Abuse	61	29
Sexual Abuse	39	18
Neglect	110	53
Total	<u>211</u>	<u>100%</u>

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sample of typical child abuse and neglect victims residing in Baltimore, Maryland.

Table 3 shows the distributions of child abuse and neglect cases by type. There are 210 victims included in the comparison group of child abuse and neglect cases. As shown in table 3, there are two categories of child abuse 1) physical abuse and 2) sexual abuse. The comparison group is primarily made up of neglect victims with 53%. Also, 29% are physical abuse victims, and 18% sexual abuse victims.

**4.1.3 Census data**

This study employs 1990 United States Bureau of Census data to map out high risk communities, and to develop risk patterns specific to communities experiencing

high rates of child homicide and child abuse and neglect. The U.S. Census data are a descriptive sampling of a wide variety of characteristics of the U.S. population aggregated by geographic areas; such as states, counties, and cities. The most recent U.S. Bureau of Census Survey data, collected in 1990, was used for this study. The census data sample consists of census tracts for the City of Baltimore, Maryland. Census tracts were identified for each of the 55 Baltimore City homicide cases and the 210 child abuse and neglect cases. The census data variables were merged into the Baltimore City child homicide and child abuse and neglect data sets.

Census data were used to examine community level risk factors for both child homicide and child abuse and neglect victims<sup>5</sup>. The variables used to describe community level risk factors include, the percentage of the population living below the poverty level, the percentage of the population under 18 years of age, the percentage of the population who are nonwhite, and the percentage of the population living in single parent

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<sup>5</sup>Baltimore City census data is aggregated into census tracts that define and outline specific neighborhoods. However, census tracts are not available for all Maryland communities.

households. Community characteristics were identified for each victim's census tract, based on their address at the time of death or injury. The community level risk factors are explained further in section 4.2 below.

#### **4.2 Methodology**

The following section describes each research question, the variables used to describe the risk factors, and the methodology used to analyze the research questions. The purpose of this study is to explore the risk factor relationships between child homicide and child abuse and neglect. The study examines the differences in risk factor patterns between intrafamilial and extra-familial child homicide, and child abuse and neglect.

There are three levels of risk factors that are examined in this study, individual, family, and community. Each of the risk factor levels involve a group of items that describe a particular risk factor level. Individual level risk factors describe the profile of the victim and suspect for each homicide and abuse or neglect case. Family level risk factors describe the characteristics of the victim's family as well as provide the history of previous experiences of child abuse or neglect involving the victim and any of their siblings. Community level

risk factors describe the victim's community of residence with regard to income status, number of children, race, and marital status. The comparison group variables are designed to match those collected in the homicide data sample, allowing the comparison of key variables from each risk factor level. The specific variables used to describe the risk factors are defined in section 4.2.1 of this chapter.

The examination of the data addresses three research questions. Table 4 identifies the data and the methodology used to analyze each of the research questions. The first phase of the analysis compares Baltimore city child homicide cases with all other State of Maryland cities, to determine if there are any significant differences between state and city level homicide incidents. If no significant differences are found, then the use of city homicide data in later phases of the analysis will be justified. The second phase of the analysis compares statewide intra- and extrafamilial homicide data. Comparisons are made to determine whether or not there are any differences among individual, family, and community level factors. The third phase of analysis examines the causes and circumstances surrounding statewide child homicides and child abuse and neglect incidents. The

Table 4  
Research Design and Methodology

Questions	Data Set(s)	Methods
1. Risk Factor Patterns:		
A. Intrafamilial Homicides		
1. Individual Factors	State Level	Frequencies
2. Family Factors	Homicide Data	Chi-Squares
3. Community Factors	City Census Data	Regression
B. Extrafamilial Homicides		
1. Individual Factors	State Level	Frequencies
2. Family Factors	Homicide Data	Chi-Squares
3. Community Factors	City Census Data	Regression
2. Risk Factor Differences:		
Homicide vs. Child Abuse and Neglect	Baltimore City -	Frequencies
1. Individual Factors	Homicide Data	Chi-Squares
2. Family Factors	Child Abuse Data	Regression
3. Community Factors	Census Data	
3. Causes/Circumstances of homicide vs. abuse and neglect		
A. Type of Injuries		
B. Type of Weapon		
C. Time of Injury	State Level	Frequencies
D. Place of Death	Homicide Data	
E. Drug Related Death	Child Abuse and	
F. Number of Victims	Neglect Data	

final phase of analysis compares Baltimore city child homicide and child abuse and neglect incidents. If earlier results find risk factor differences between the two types of child homicide then each type of homicide will be compared with child abuse and neglect data.

#### **4.2.1 Homicide Risk Factor Patterns**

Are there different risk factor patterns between intrafamilial and extrafamilial child homicides?

The first research question examines the nature of the association of specific risk factors between intrafamilial and extrafamilial homicides. One of the major concerns with prior child homicide research is the lack of comparative risk factor analyses between each type of child homicide. This study is designed to examine the effects of multiple level risk factors between intra- and extrafamilial child homicide. For purposes of this study, intrafamilial and extrafamilial child homicides are the dependent variables. The three levels of risk factor variables are described below.

- a. What specific individual level risk factors will be different? The variables used to measure, individual level risk factors include age,

gender, race, (both victim and offender profiles), victim-offender relationship, and birthorder of the victim (i.e., first born, middle child, last born, or only children).

Prior research suggests there are patterns of victimization for each type of child homicide. For instance, several studies show males, under four years of age, overrepresented among fatal abuse victims (Schloesser et al., 1992; Plass, 1993). However, for extrafamilial victims most prior research identifies black, male, urban, adolescents as overrepresented among drug related street murders (Goetting, 1989).

Victim profiles appear to be dependent on the age of the child. Victims less than 10 years generally fall into the area of fatal child abuse or intrafamilial homicide research. Child homicides involving victims between the age of 10 and 19 years, are generally defined as street murders, or extrafamilial homicides. Separate age divisions suggest there may be different risk factors for intra-and extrafamilial child homicide incidents. Victim and offender relationships may differ according to age of the victim. Typically, children less than ten years of age are generally limited in their exposure to people outside the family (Jason, 1983). Suggesting that younger

children would generally be victimized by a nonstranger. Current intrafamilial homicide research specifies that the child's caretaker is characteristically the perpetrator (Miller and Block, 1982; Christoffel, 1990).

The most common extrafamilial homicide victim has a similar characteristic profile as that of their offender (Rowley et al., 1987; Harries 1993). Extrafamilial homicide research specifies that adolescents are more often victimized by another peer member or an adult acquaintance known outside the family residence, and occasionally a stranger is responsible. Previous research also suggests an apparent connection between adolescent street murders and illegal drug activities (Goetting, 1990). The rarest victim and offender relationship found in child homicides involve strangers (Jason and Andereck, 1983). With the exception of justifiable police homicides, extrafamilial homicide victim and offender relationships are typically nonstrangers. Victims and offenders are also expected to have similar individual profiles. However, extrafamilial individual profiles will typically vary greatly from intrafamilial victim and offender profiles.

Some research suggests that the birth order position of a victim is an important risk factor of child homicide.

For example, two separate studies found that most victims were either the only child or youngest sibling (Mitchell, 1989; Ammerman, 1991). However, each of these studies is limited by the age of the victims in their data samples. This study examines the birth order position of the homicide victim to determine if there are differences between the two types of child homicide victims. Birth order is expected to show entirely opposite conclusions for each type of homicide. Intrafamilial homicide should indicate more last born victims, and extrafamilial homicide is expected to show more first born victims. Also, intrafamilial homicide victims are typically younger, and more often the last born child, suggesting that they would have fewer chances of experiencing prior violence (Jason, 1983). A complete explanation of how each of the individual level variables are coded follows.

Gender is represented by a binary variable coded one for males and zero for females. Age of the victim is a binary variable coded one for less than 10 years of age and zero for ten and older. Age of the suspect is coded as a binary variable with one for over 25 years of age and zero for 14 through 25 years of age. Race is a categorical variable coded one for black, two for white, three for Asian, and four for Hispanic. Birth order of

the victim is represented as a categorical variable, coded one for first born, two for middle child, three for last born, and 4 for only children. The victim-offender relationship is a categorical variable coded one for natural parent, two for foster or step parent, three for parent's paramour, four for other relative, five for babysitter, six for acquaintance, seven for stranger, and eight for police officer. For purposes of the multiple logistic regression analysis the victim-offender relationship variable is recoded as a binary variable. The new variable is coded as one for caretakers and zero for non-caretakers.

- b. What specific (victim) family level risk factors will be different? The items used to measure (victims') family level risk factors include parents' marital status, socioeconomic status, family size, and previous history of abuse.

Very little is known about family level risk factors and child homicide incidents. Previous research focusing on offenders of intrafamilial child homicides finds that most victims come from single parent families (Goetting, 1989; Plass, 1993). Family demographic variables such as, low socioeconomic status, single parent, teen parent,

nonintact families with many children (Gartner, 1991), are assumed to affect child abuse, however, they have not been examined regarding child homicide. Based on prior research one may assume that whatever factors affect child abuse, may also affect intrafamilial child homicides. This study examines specific family level risk factor patterns between both intra- and extrafamilial homicides. Socio-economic status has not been analyzed using individual level data, and aggregate level data has limited the prior research from generalizing to individual victim and offender characteristics. Prior history of child abuse or neglect of victims and their siblings are expected to be higher among extrafamilial homicide victims, than for intrafamilial homicide victims. These conclusions are based on the age of the child at the time of death, in that most extrafamilial homicide victims are older than ten years of age. Also, most intrafamilial research suggests that victims are the youngest child in the family, suggesting that they may not have a prior history of being abused or neglected (Schloesser et al., 1993). Explanations as to how each of the family level variables are coded are described below.

Marital status of the victim's parents is represented by a categorical variable coded one for married, two for

single, three for widowed. Socio-economic status is measured using Public Welfare Assistance status. Public assistance status is represented by four binary variables, coded one for partial public assistance, (food stamps, partial income or subsistence), two for Medicaid (medical benefits), three for no public assistance, four for unknown public assistance status, and five for full (AFDC) public assistance. Persons with no known income are represented in the suppressed categories of each of these. Family size is represented by the number of children in the victim's family. Family size is a discrete variable that indicates the actual number of children (the maximum family size is 8 additional children). Prior history of child abuse or neglect of both the victim and their siblings is represented by a binary variable coded one for prior history, zero for no history. The actual number of times a report for prior abuse or neglect was substantiated is represented as binary variable coded one for three or more reports and zero for no reports. For purposes of the multiple logistic regression analysis both marital status and family size are recoded as binary variables. Marital status is coded as one for single and zero for married. Family size is coded one for siblings and zero for no siblings.

c. What specific community level risk factors will be different? The variables used to measure community level risk factors include place of victim's residence (census tract), percentage of the population living below the poverty level, percentage of the population under 18 years of age, percentage of the nonwhite population, and percentage of single parent households.

Specific community characteristics may be identified as key risk factors to incidents of child homicide and/or child abuse and neglect. Currently, there are no extrafamilial homicide studies that focus on community level risk factors. This study will analyze Baltimore City level data to compare community level risk factors between intra- and extrafamilial child homicides.

The victims' addresses are matched to a specific census tract identified from Baltimore City Census Bureau data. The tract identifiers are then merged into the homicide and child abuse and neglect data sets. Census tracts are discrete variables indicating the actual number of the tract. The community level variables are coded as follows. The percentage of the population under the poverty level is used as a measure of the socioeconomic

status of each community. The percentage distributions for poverty and nonwhite are spread between 0 and 100%. Therefore, the item for the percentage of the population living below the poverty level is coded as a binary variable using one for more than 50% of the community members living below the poverty level and zero for less than 50% of the community living below the poverty level. The item measuring the percentage of the population who are nonwhite is coded as a binary variable using one for more than 50% of the community members who are nonwhite and zero for less than 50% of the community members who are nonwhite. The percentage distributions for population under 18 years of age and members living in single parent households are between 0 and 50%. The item for percentage of the population under 18 years of age is coded as a binary variable with one for more than 25% of the community members under 18 years of age and zero for less than 25% of the population under 18 years. The item for percentage of population living in single parent households is coded one for more than 25% of the population living in single parent households and zero for less than 25% of the population living in single parent households.

The data used to measure child homicide risk factor patterns include the U.S. Census data for Baltimore City, and State of Maryland child homicide data. The 82 child homicide incidents are categorized into one of the two categories of child homicide, intrafamilial and extrafamilial.

#### **4.2.2 Risk Factor Differences - Child Homicide and Child Abuse and Neglect**

Are there different risk factor patterns between child homicide and child abuse and neglect incidents?

This next research question addresses whether there are different risk factor patterns between child homicide and child abuse and neglect incidents. The limitations of most prior child homicide research demonstrates the need for comprehensively examining the various risk factors of both homicide and child abuse and neglect incidents. Once establishing specific patterns for both homicide and abuse and neglect, patterns of risk should be compared between homicide and abuse and neglect. Some risk factors included in previous child abuse and neglect research are age, gender and race of both victim and offender, single parenting, socioeconomic status, prior history of abuse,

illegal drug use, and poverty of neighborhood. It is a combination of these models that target high risk abusive families used in this study to examine risk factors for child homicide. A major assumption of prior research is that certain patterns of risk factors would be more evident in child homicide incidents than in child abuse and neglect. This study examines risk factor patterns using each of the three levels of risk described in section 4.2.1. Each of the following research questions are addressed in this phase of the analysis.

- a. Are there different individual level risk factors between child homicide, and child abuse and neglect incidents?
- b. Are there different family level risk factors between child homicide, and child abuse and neglect incidents?
- c. Are there different community level risk factors between child homicide, and child abuse and neglect incidents?

Although one might assume there is a link between intrafamilial homicide characteristics and abusive families, there are no studies to support these relationships. Child abuse and neglect may be major contributing factors in the high proportion of homicides (McCurdy and Daro, 1993). This study examines prior history of child abuse and neglect of homicide and abuse and neglect victims and their siblings.

#### 4.2.3 Risk Factor Prediction

What are the significant risk factors for predicting child homicide and child abuse and neglect?

Based on the feasibility of the data, the association of significant risk factors for child homicide and child abuse and neglect are examined. Multiple logistic regression statistics<sup>6</sup> are used to measure the binary dependent variable of intrafamilial and extrafamilial homicide and a dependent variable measuring child abuse and neglect incidents. Multi-dimensional prediction

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<sup>6</sup>With a case control study such as this, the sample is selected on the outcome of the dependent variable of homicide. Logistic regression can obtain adjusted odds ratios from the estimated slope coefficients (Hosmer and Lemeshow, 1989).

models are developed based on the findings of earlier risk factor analyses.

The methods used to analyze the risk factor items and the homicide and child abuse and neglect data include cross-tabulations of frequency distributions and percentages, chi-square values, and multiple logistic regression models. Cross-tabulations will provide descriptive statistics describing the characteristics of child homicide and child abuse and neglect data. Risk factor patterns will be identified between the categories of homicide and child abuse and neglect. The three levels of risk factors will be interpreted as separate groups of items. All of the individual victim profile items will be examined as a group, the individual suspect profile items, the victim's family factors, and community level risk factors will be examined separately across both homicide categories and child abuse and neglect incidents. Chi-square values are used to test for significant comparative differences in the cross-tabulated data. Risk factors showing statistical significance, are further analyzed, using multiple logistic regression models. Multiple logistic regression models are used to determine the level of prediction for each risk factor item. The dependent

variable is binary measuring both intrafamilial and extrafamilial homicides.

The first phase of analysis compares state and city level homicide data by each risk factor level. This comparison will determine if any risk factor differences exist between state and city cases. If there are no differences at the state and city levels, later stages of the analysis will use only city level homicide data. Only Baltimore City homicide data will be used to examine risk factor differences between homicide and child abuse and neglect incidents. The second phase of analysis compares state level intrafamilial and extrafamilial child homicides by each risk factor level. This comparison will determine if any risk factor differences exist between each category of child homicide. Based on findings between intrafamilial and extrafamilial homicide, the third phase of analysis will compare homicide and abuse and neglect risk factor patterns. If there are no differences between each category of homicide, then in the third phase of analysis child homicide incidents will be not be broken down into separate homicide categories. However, if risk factor differences are found between intrafamilial and extrafamilial homicide incidents, then separate analyses will be completed for each category of

homicide. Each category of homicide will remain separate so that risk factor differences between intrafamilial and child abuse and neglect, and extra-familial homicide and child abuse and neglect incidents are examined.

#### 4.2.4 Causes and Circumstances of Death or Injury

What are the unique causes and circumstances of child homicide death and child abuse or neglect injury?

This study examines the unique circumstances leading to death, and the causes of death and types of injuries in both child homicide and child abuse and neglect incidents.

- a. Cause of death or Type of Injury. The variable categories for cause of death or type of injury are gunshot wounds, physical abuse, fire, strangulation, stab wounds, and malnourishment.

The cause of death or injury variable is coded as, one for gun shot wound, two for physical beating, three for fire or scalding, four for strangulation, hanging, or asphyxia, five for stab wounds, and six for malnutrition, dehydration, or child neglect. Facts about the specific causes of death or injury were examined to determine the frequency distributions of each subcategory of this

variable and to compare the characteristics with child abuse and neglect incidents.

- b. Circumstances of the incident. The variables used to measure the circumstances of death or injury include time of death/injury, place of death/injury, drug related injury, types of weapons used, and number of offenders.

The characteristics of circumstances leading to the homicide of children appear to differ depending on the age of the child. For example, a child less than four years of age is more physically vulnerable to violence than an adolescent. An adolescent, however, is exposed to violence through peer association of other adolescents participating in street crime. Such age distinctions, require specific age groupings be established before examining any causal relationships with child homicide. State level homicide data will be used to examine the circumstances and causes of death, and types of injuries resulting in the death of a child. Also, Baltimore City child abuse and neglect data will be used to examine the circumstances and causes of injury found in child abuse and neglect incidents.

The circumstances of death or injury variable is categorical coded as one for argument preceding death, two

for abuse or neglect, three for street, drug, or gang shooting, four police shooting, and five for arson. The time of injury is a categorical variable coded one for 0001-1000 hours, two for 1001-1800 hours, and three for 1801-2459 hours. The place of injury variable is coded one for victim's residence, two for another person's residence, three for daycare center, four for public roadway or alley, six for other (i.e., vacant parking lot, field, or inside parked vehicle). The item used to measure the type of weapon is coded as, one for hands or feet, two for knife or sharp object, three for fire or hot liquid, four for strangulating device, five for neglect (i.e., no sustenance, no food or water), six for unknown type of firearm, seven for shotgun, eight for automatic rifle, and nine for handgun. The number of additional victims is a discrete variable measuring the actual number of additional victims. Frequency distributions and percentages were examined for each subcategory of item of cause and circumstance. Distributions were compared between each type of homicide and child abuse and neglect.

## CHAPTER 5. RESULTS

This chapter presents the results of the study in four separate sections. The first section presents the results of the comparative analysis between Baltimore city and all other Maryland city child homicide data. The second section includes the results of the comparative analysis between intrafamilial and extrafamilial homicide using state level child homicide data. The third section presents the results of the comparison between child homicide and child abuse and neglect incidents using Baltimore city level data. Finally, the fourth section presents the results comparing child homicide and child abuse and neglect incidents with regard to the causes and circumstances of death and injury. The results of the study are described in relation to existing theories and policies. Before presenting the findings the problem of missing data is briefly discussed.

### Missing Data

Several child homicide and child abuse and neglect cases are missing data for specific risk factor items. Table 5 shows that this was especially true for two risk factor items with regard to the child homicide data.

Table 5

## Distributions for Items Excluded due to Missing Data

Item	Other Cities (n=27)		Baltimore City (n=55)	
	n	%	n	%
<u>Suspect History</u>				
Mental Health	4	17	1	4
Perpetrated D.V./CAN*	6	25.5	5	21
Victim of D.V./CAN	-	-	-	-
Alcohol/Drug Abuse	4	17	5	21
Prior Crime Convictions	6	24.5	5	21
No History	4	17	8	33
Missing data	3		31	
<u>Socioeconomic Status</u>				
Partial AFDC	2	67	6	22
Working	1	33	6	22
Full AFDC	-	-	15	56
Missing data	24		28	

\*D.V. means Domestic Violence and CAN means Child Abuse and Neglect

Thirty-four homicide cases are missing data for the item measuring the suspect's prior criminal, alcohol, drug abuse, and victimization history. The suspect's prior history of crime, and drug and alcohol abuse is not consistently documented in the Child Fatality Review Team data. Also, documentation confirming that a suspect has been a victim of either domestic violence or child abuse and neglect is not consistent. The second item, measuring the socioeconomic status of the victim's family is missing data for more than half of the state and city homicide

cases.<sup>7</sup> Although the available data suggest that most victims' families across the state are receiving full public financial assistance, more than half of the cases are missing data for this item. Because of the large volume of missing data for both of these risk factor items, each are dropped from the suspect profile analyses in this study.

Also, with regard to homicide suspect data, four cases involve victims who were shot by the police while fleeing from the scene of a crime, and for eight cases a suspect was not identified by authorities at the time of data collection. Although, for all 82 homicide cases Child Fatality Review Team records identify whether the caretaker is the suspect, a specific suspect is not necessarily identified. As a result, when examining suspect profile items, these twelve cases are eliminated from the analyses and identified as missing in both the tables and discussion.

In terms of the prior abuse or neglect of victims and siblings, data are missing for homicide victims residing outside the city of Baltimore. The prior abuse and

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<sup>7</sup>Although this item is included in the documents maintained by the Child Fatality Review Team, this information is seldom completed by the agencies at the time of the child's death.

neglect of victims and their siblings is not consistently documented in the Child Fatality Review Team records, when a homicide victim was not a resident of Baltimore city. State level child abuse and neglect data are not available from the Department of Child Protective Services. Therefore, twenty homicide cases are missing data on victims' prior experience of abuse or neglect, and nine homicide cases are missing data on sibling's prior abuse or neglect. Cases with missing prior abuse and neglect data are eliminated from the family risk factor analyses and identified as missing in the results tables and discussion.

Items that have small numbers of missing data are included in the analyses, however, any case with missing data on a particular item, is dropped from that portion of the analysis. Whenever an item is missing data, it is clearly identified in the specific table(s) and mentioned in the discussion. As noted in chapter 1, the U.S. Census data and the Child Abuse and Neglect data are for the city of Baltimore. Therefore, no interpretation of community level factors is made regarding homicide cases outside Baltimore city. Also, Baltimore city child abuse and neglect data can only be compared with Baltimore city homicide data.

## Section 5.1 - State and City Child Homicide Data

Results for the first phase of the child homicide analysis are based on a comparison between Baltimore city and all other State of Maryland city level homicide cases. The purpose of the analysis is to determine whether the characteristics of Baltimore city child homicides are different from child homicides in other cities in the State of Maryland. Data are examined with respect to two of the three risk factor levels. The victim and offender profiles, and the victim's family characteristics are compared in this phase of the analysis.<sup>8</sup> Findings that show no major differences, provide justification for using only the Baltimore city homicide cases in other phases of analyses for this study.

### 5.1.1 Individual Level Factors

#### Victim Profiles

The first group of items examined are the individual level factors that describe the victims' profile. The

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<sup>8</sup>Community level factors are not available for the entire state, therefore, they are only examined in the final phase of the analysis.

Table 6

## Child Homicide Victim Profiles

Item	Other Cities (n=27)		Baltimore City (n=55)	
	n	%	n	%
<u>Victim's Age</u>				
< 10 years	14	51	14	25
10-17 years	13	49	41	75
<u>Gender</u>				
Male	16	60	46	84
Female	11	40	9	16
<u>Race<sup>9</sup></u>				
Black	17	63	50	91
White	10	37	5	9
Asian	-	-	-	-
Hispanic	-	-	-	-
<u>Birthorder Position</u>				
First Born	1	5	12	26
Middle Child	2	9	14	30
Last Born	2	9	2	4
Only Child	17	77	19	40
Missing data	5		8	

items used to describe the victims' profile include age<sup>10</sup>, gender, race, and birth order position. According to the

<sup>9</sup>Although additional categories of race were included when collecting the data, only two categories of race, black and white, were found among victims of child homicide.

<sup>10</sup>Consistent with prior research, in that most intrafamilial victims are younger than ten years of age, and most extrafamilial victims are older than ten years, the item measuring age is coded into two age categories throughout the study. Victims older than ten years, and victims less than ten years.

results presented in table 6, approximately 15% of the Maryland homicide cases are missing data on the item measuring victim's birth order position.

In comparing Baltimore city child homicide cases with other Maryland child homicides, the results show a variation in the age of victims. Seventy-five percent of the child homicide victims in Baltimore are between 10 and 17 years of age, the other 25% of Baltimore victims are younger than 10 years of age. While the distributions for all other Maryland child homicide victims are split in half with regard to age; 51% are younger than 10 years and 49% are between 10 and 17 years. In terms of victims' gender, males are predominately more victimized showing that 84% of the Baltimore city victims, and 60% of all other Maryland victims are male. Racial percentages show that most victims are black, with a higher percentage for Baltimore victims at 91%, while 63% of other Maryland victims are black. Nine percent of the remaining Baltimore victims are white, while 37% of the other Maryland victims are white. The last victim profile item in table 6, measures the birth order position of the homicide victim. The data show that there are some differences between Baltimore and other Maryland child homicide victims. The largest category statewide is for

victims who are the only child. About 40% of all Baltimore city, and 77% of all other victims are only children. The smallest category for Baltimore victims is for last born children, at 4%, whereas the smallest category for other Maryland victims is for first born children at 5%. Twenty-six percent of the Baltimore victims are first born children, and 9% of the other Maryland victims are last born children. Also, the category for middle children is somewhat different with 30% of the Baltimore city victims, and 9% of all other victims.

In summary, victim profiles appear to be similar on all items except age of the victim when comparing Baltimore city and all other State of Maryland victims. The majority of all victims are black, males, who are the only children in their family. However, most Baltimore victims are older than 10 years of age, while all other Maryland victims are split equally with half who are between 10 and 17 years, and half who are younger than 10 years of age. As noted in chapter 4, table 2, 78% of the Baltimore homicide cases involve extrafamilial homicides. The Baltimore victim profile is most typical of extrafamilial homicide victims described in prior research. Also, all the other Maryland homicide cases are split

equally between both intrafamilial and extrafamilial homicides. In conformance with prior research, the distributions are typical of intra- and extrafamilial homicide victim profiles. Although the victim profiles are similar across the State of Maryland, there are fewer cases outside the city of Baltimore. Because 67% of the child homicide victims are in Baltimore city, the percentage distributions across each risk factor item are much smaller for the victims located outside Baltimore.

### **Suspect Profiles**

The second group of items compared between Baltimore and other State of Maryland child homicide data are the items describing the suspects' profile. The suspect profile items include age, gender, race, and type of relationship between the suspect and victim. As noted earlier, the item measuring the suspect's criminal and victimization history is dropped from the analysis because of missing data. Also noted earlier, twelve extrafamilial homicide cases have missing data, because suspects have either not been identified by the police, or the case was a justifiable homicide. The results for this phase of the analysis are presented in table 7.

Table 7

Child Homicide Suspect Profiles\*

Item	Other Cities (n=27)		Baltimore City (N=55)	
	n	%	n	%
<u>Age</u>				
14-25 yrs	15	60	33	73
26-48 yrs	10	40	12	27
Missing data	2		10	
<u>Gender</u>				
Male	21	85	38	84
Female	4	15	7	16
Missing data	2		10	
<u>Race</u>				
Black	19	76	41	91
White	6	24	3	7
Asian	-	-	1	2
Hispanic	-	-	-	-
Missing data	2		10	
<u>Relation to Victim</u>				
Natural Parent	7	27	7	14
Foster/Step Parent	1	4	-	-
Parent's Paramour	4	15	4	8
Other Relative	-	-	1	2
Babysitter	2	8	1	2
Acquaintance	9	34	26	54
Strangers	2	8	7	14
Police Officer	1	4	3	6
Missing data	1		7	
<u>Caretaker to Victim</u>				
No	13	52	43	78
Yes	14	48	12	22

\*Missing Data - 4 police shootings - no suspect data is needed, also, 7 Baltimore city and 1 other city cases do not have a specific suspect identified.

Overall, statewide child homicide suspects have similar profiles. In terms of age, most suspects statewide are between 14 and 25 years of age. Seventy-three percent of the Baltimore suspects, and 60% of the other Maryland suspects are under the age of 26 years. Only 27% of the Baltimore suspects, and 40% of the other Maryland suspects are older, specifically, between 26 and 48 years of age. The percentages for gender are the same, with 84% of the Baltimore suspects, and 85% of the other Maryland suspects who are male. Racial distributions are also somewhat similar in that most homicide offenders are black. However, the Baltimore percentage is larger with 91%, while only 76% of the other Maryland suspects are black. Baltimore had fewer white suspects at only 7%, while 24% of the other Maryland suspects were white. Also, one Baltimore homicide case involved an Asian suspect.

Distributions for each category describing the suspect's relationship with the victim were somewhat different. The friends and acquaintances category was the largest category with 54% of the Baltimore, and 34% of the other Maryland suspects. The second largest relationship category, has 27% of the other Maryland suspects and 14% of the Baltimore suspects who are natural parents to their

victims. Also, one case outside of Baltimore involved a foster parent, and one Baltimore case involved a relative other than a parent. More of the suspects outside Baltimore are the parent's paramour, only 8% of the Baltimore, while 15% of the other Maryland suspects are a parent's paramour. The reverse is true with regard to strangers, with 14% of the Baltimore, and only 8% of the other Maryland suspects who are a stranger to their victim. In addition, four cases involved a babysitter, one in Baltimore, and three outside of Baltimore. Four cases involved the police, three Baltimore and one case outside of Baltimore involved the police shooting the victim who was fleeing from the scene of a crime. The last suspect profile item in table 7, identifies whether the suspect was the victim's caretaker at the time of death. Forty-eight percent of the suspects outside of Baltimore city, and 22% of the Baltimore city suspects were the victims' caretaker at the time of death.

In summary, the comparison of suspect profile items indicate that the majority of suspects statewide are black, males, and younger than 26 years of age. However, the victim and offender relationship varies when comparing between Baltimore and other Maryland city suspects. The majority of Baltimore suspects are acquainted or friends

with their victims, while the other Maryland suspects are equally the caretaker to the victim or a friend or acquaintance to the victim at the time of death. These findings suggest that the cases outside of Baltimore are equally distributed between intra- and extrafamilial child homicide. While the majority of Baltimore city child homicides are extrafamilial child homicides. Consistent with most extrafamilial homicide research, the findings show that most Baltimore suspects are black, males, between 14 and 25 years of age, and although acquainted with their victim, they are not typically the victim's caretaker. Also, in support of prior research, extrafamilial homicide victims and suspects have similar individual level characteristics.

### **5.1.2 Family Level Factors**

The next group of items compared between Baltimore and other State of Maryland child homicide cases measure the victim's family characteristics. The following items describe the victims' family, marital status of parents, number of siblings, victims' prior child abuse or neglect, siblings' prior child abuse or neglect, and the number of reported prior abuse and neglect incidents involving the

victims or their siblings. Items for prior child abuse or neglect of either the victim or their siblings measure all incidents prior to the death of the victim. As noted earlier, the item for socioeconomic status is dropped from the analysis because of the large quantity of missing data. Also, 18 cases outside of Baltimore city are missing data on prior abuse or neglect of victims, and 8 cases outside of Baltimore city are missing data on the prior abuse or neglect of siblings. The results comparing family characteristics are presented in tables 8 and 9.

The results in table 8 show that patterns for the marital status of the victims' parents are similar for all Maryland victims, with 92% of the Baltimore city, and 77% of the other Maryland victims living with a single parent at the time of death.<sup>11</sup> Twenty-three percent of the victims outside Baltimore and 6% of the Baltimore city victims' parents are married; one Baltimore victim has a widowed parent.

The next item measures the size of the victims' family based on the number of children in addition to the

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<sup>11</sup>Although, for each case it was clearly specified in the Child Fatality Review Team data that a victim was living with a single parent, it was unclear as to whether the parent was in fact a single parent, divorced, or legally separated from their spouse.

Table 8

Child Homicide Victim Family Characteristics

Item	Other Cities (n=27)		Baltimore City (n=55)	
	n	%	n	%
<u>Marital Status</u>				
Married	6	23	3	6
Single	20	77	46	92
Widowed	-	-	1	2
Missing data	1		5	
<u>Family Size</u>				
Victim Only	17	77	19	40
1 sibling	3	13	7	15
2 siblings	1	5	7	15
3+ siblings	1	5	14	30
Missing data	5		8	

victim. Table 8 shows that 40% of the Baltimore victims, and 77% of the other Maryland victims are the only children in the family. About 13% of the Maryland victims outside of Baltimore, and 15% of the Baltimore victims have one sibling. Fifteen percent of the Baltimore and 5% of the other Maryland victims have two siblings. Also, 30% of the Baltimore victims have at least three or more siblings, while only 5% of the other victims have three or more children.

In summary, although the percentage distributions are somewhat higher for Baltimore victims, most child homicide

victims were living with a single parent at the time of death. Also, the percentages for family size are somewhat different for Maryland victims when comparing with Baltimore city victims. More victims outside of Baltimore city are the only children in the family, while more Baltimore city victims have three or more siblings.

The results comparing Baltimore city and other State of Maryland victims with regard to prior child abuse or neglect of victims and siblings are presented in table 9. As shown, the findings are very different for Baltimore city homicide victims versus other Maryland homicide victims when comparing the distributions of prior abuse or neglect of homicide victims and their siblings. None of the child homicide victims or their siblings, outside of Baltimore city, are shown to have experienced prior abuse or neglect. While 40% of the Baltimore homicide victims, and 49% of their siblings experienced prior abuse or neglect. The majority of all victims and their siblings who experienced prior abuse or neglect had three or more reported incidents. Sixty-four percent of the Baltimore homicide victims experienced three or more incidents of abuse or neglect. Seventy-eight percent of the Baltimore homicide siblings experienced three or more incidents of abuse or neglect. Suggesting that when a child homicide

Table 9

Child Homicide Victims' and Siblings Prior Abuse and Neglect

Item	Other Cities (n=27)		Baltimore City (n=55)	
	n	%	n	%
<u>Victim's Prior History of Abuse or Neglect</u>				
Yes	-	-	22	40
No	9	100	33	60
Missing data	18			
<u>Number of Times Prior Abuse\Neglect Reported</u>				
1 report	-	-	6	27
2 reports	-	-	2	9
3 or more	-	-	14	64
<u>Siblings Prior Abuse</u>				
No Siblings	17		17	
Yes	-	-	18	49
No	2	100	19	51
Missing data	8			
<u>Number of Times Siblings Prior Abuse</u>				
1 report	-	-	4	22
2 reports	-	-	-	-
3 or more	-	-	14	78

victim or their sibling did experience prior abuse or neglect the violence was typically an ongoing problem in the household.

In summary, the majority of child homicide victims in the State of Maryland were living with a single parent at the time of their death. However, when comparing between

Baltimore city and Maryland victims outside of Baltimore, all other family characteristics are different. The majority of Baltimore city victims have one or more siblings. Also, the majority of both Baltimore homicide victims and their siblings experienced prior abuse or neglect, with most experiencing three or more incidents of prior abuse or neglect. None of the homicide victims or their siblings outside of Baltimore experienced prior abuse or neglect, however, as noted earlier much of the data is missing with regard to prior abuse and neglect.

### **5.1.3 Community Level Factors**

State and city homicide data could not be compared on community level factors. Items measuring community level factors were extracted from the U.S. Bureau of Census, and were only available for Baltimore city. Community level factors are analyzed in the third phase of analysis of this study.

#### **Summary.**

In summary, when comparing Baltimore city child homicide cases and all other State of Maryland child homicide victims by victim and suspect profiles, and victims' family characteristics, the patterns are somewhat

similar. However, because there are fewer cases outside the city of Baltimore, the percentages are much smaller than the Baltimore percentages. The results indicate that most child homicide incidents are extrafamilial homicides. The victim profile patterns are similar on all items except for age. Most Baltimore victims are between 10 and 17 years, while all other victims are equally distributed between those under 10 years of age and those between 10 and 17 years. The patterns for suspect profile items are similar for all child homicide suspects in Maryland. The patterns for victims' family items are with regard to the marital status of the victims' parents. Although most victims are only children, the distribution for victims' outside Baltimore are much larger. Also, the items measuring prior abuse or neglect of victims or their siblings are different. None of the victims or their siblings outside of Baltimore experienced abuse or neglect prior to the victim's death.

### Section 5.2 Intrafamilial versus Extrafamilial Child Homicide

The second phase of this study involves a comparative analysis between the two categories of child homicide.

Intrafamilial and extrafamilial homicide are compared by each level of risk, individual, family, and community. The purpose of this analysis is to determine whether risk factor patterns are different for each type of homicide. State of Maryland child homicide data are used to compare intrafamilial and extrafamilial child homicide categories. The results are presented in tables 10 through 16. The results show that there are 26 intrafamilial and 56 extrafamilial State of Maryland child homicide cases.

#### 5.2.1 Individual level factors

**Research Question Ia. What specific individual level risk factors will be different between intrafamilial and extrafamilial child homicide incidents?**

##### **Victim Profiles**

The first group of items compared between each category of homicide include the victim profile items. The results presented in table 10, show very different distributions in terms of the victim's age. Ninety-six percent of the intrafamilial victims are less than 10 years of age, whereas, 95% of the extrafamilial victims are between 10 and 17 years of age. Also, when comparing gender and race the patterns are slightly different for

Table 10

Child Homicide Categories and Victim Profiles

Item	Type of Homicide			
	Intrafamilial (n=26)		Extrafamilial (n=56)	
	n	%	n	%
<u>Victim's Age</u>				
< 10 years	25	96	3	5
10-17 years	1	4	53	95
<u>Gender</u>				
Male	17	65	46	82
Female	9	35	10	18
<u>Race</u>				
Black	16	62	51	91
White	10	38	5	9
Asian	-	-	-	-
Hispanic	-	-	-	-
Other	-	-	-	-
<u>Birthorder Position</u>				
First Born	3	12	10	23
Middle Child	8	30	8	19
Last Born	2	8	2	5
Only Child	13	50	23	53
Missing data			13	

each homicide category. Although black male victims represent the majority of victims in both homicide categories, the distributions vary. Males represent 82% and blacks 91%, of the extrafamilial homicide victims, in comparison to 65% male and 62% black intrafamilial homicide victims. White victims are the only other racial group represented in both homicide categories, with

a higher percentage for intrafamilial at 38%, while only 9% of the extrafamilial victims are white.

The final item used to describe the victims' profile is birth order position of the victim. Previous studies suggest that birth order position is an important risk factor of child homicide victims. Prior research finds that intrafamilial victims are typically the last born children, and extrafamilial victims are typically the first born children (Smith, 1989). The current study disputes most prior child homicide research. The results show that birth order position is similar across both homicide categories, with more than 50% of the victims of both intra- and extrafamilial homicide the only children in the family. The category for middle children is the second largest for both types of homicide, 30% of the intrafamilial, and 19% of the extrafamilial victims are middle children. The last born children make up the smallest birth order category, with only 8% of the intrafamilial, and 5% of the extrafamilial victims. Also, 23% of the extrafamilial homicide victims are the first born children, and 12% of the intrafamilial victims.

In summary, the findings show two distinct patterns when comparing the type of child homicide and the age of the victim. Intrafamilial homicide victims are typically

less than 10 years of age, and extrafamilial victims are typically older than 10 years of age. However, when comparing all other victim profile items, the patterns are very similar for both types of homicides. The majority of all child homicide victims are black, males, and almost half are the only child in their family.

To examine the relationship between intrafamilial and extrafamilial child homicide and the victim profile items, chi-square values are used to determine statistical significance.<sup>12</sup> As presented in table 11, critical chi-square values, and the necessary degrees of freedom are

**Table 11**

Chi-Square Statistics - Child Homicide Type by Victim Profile Items

<u>Item</u>	$\chi^2$	df
Age <sup>a</sup>	61.12***	1
Gender	2.16	1
Race <sup>a</sup>	8.48**	1
Birthorder Position	2.51	3

\*p<.05 \*\*p<.01 \*\*\*p<.001 levels of statistical significance

<sup>a</sup>Yates Corrected value

<sup>12</sup>When a crosstab cell has less than 5 frequencies, the chi-square value may be distorted (Levin and Fox, 1988). To correct for possible misleading results, a Yate's corrected formula is used for all 2 x 2 tables that contain any cells with less than 5 frequencies.

reached at the .0001 level of significance for age, and at the .01 level of significance for race. The items measuring gender and birth order position are not statistically significant. Based on the findings we can assume that there is a relationship between the items measuring age and race of the victim and each type of child homicide. The results suggest that the proportion of victims under 10 years of age is greater among intrafamilial homicide. Also, the proportion of victims between 10 and 17 years of age is greater among extrafamilial homicide. The proportion of black victims, rather than white victims is greater for both intra- and extrafamilial homicide. To examine these relationships further multiple logistic regression models are analyzed (See Appendix A).

### **Suspect Profiles**

The next group of items compared between intrafamilial and extrafamilial homicide measure the suspects profiles. As discussed earlier in this chapter, twelve cases are missing suspect data, four involved victims shot by the police, and eight had no suspect identified. These twelve cases are dropped from this phase of the analysis.

Table 12

Child Homicide Categories and Suspect Profiles

Item	Type of Homicide			
	Intrafamilial (n=26)		Extrafamilial (n=56)	
	n	%	n	%
<u>Caretaker to Victim</u>				
Yes	26	100	-	-
No	-	-	56	100
<u>Suspects' Age</u>				
14-25 yrs	8	31	35	80
26-48 yrs	18	69	9	20
Missing data			12	
<u>Gender</u>				
Male	18	69	41	93
Female	8	31	3	7
Missing data			12	
<u>Race</u>				
Black	17	65	43	98
White	9	35	-	-
Asian	-	-	1	2
Hispanic	-	-	-	-
Missing data			12	
<u>Relation to Victim</u>	n	%	n	%
Natural Parent	15	58	-	-
Step/Foster Parent	1	4	-	-
Parent's Paramour	6	23	-	-
Other Relative	1	4	-	-
Babysitter	3	11	-	-
Acquaintance	-	-	36	74
Strangers	-	-	9	18
Police Officer	-	-	4	8
Missing data			7	

As shown in table 12, all twelve cases with missing data are extrafamilial homicide cases, therefore results are based on 44 extrafamilial homicide cases, and 26 intrafamilial homicides.

The results clearly establish the definitional boundaries between intrafamilial and extrafamilial homicides. All of the intrafamilial suspects are the victims' caretaker at the time of death, but none of the extrafamilial suspects are in a caretaking role. Most prior intrafamilial homicide research profiles the suspect as young, female, single parent, with more than one child to care for, and living below the poverty level (Jason and Andereck, 1983; Schloesser et al., 1992). Whereas, most prior extrafamilial homicide research profiles the suspect as a black, male, adolescent, living below the poverty level (Goetting, 1990; Plass, 1993; Harries, 1993).

In terms of comparing the age of the homicide suspect, the results in table 12 show that most of the intrafamilial suspects are older than extrafamilial suspects. Sixty-nine percent of the intrafamilial homicide offenders, are between 26 and 48 years of age, whereas, 80% of the extrafamilial homicide offenders are between 14 and 25 years of age. The majority of both intrafamilial and extrafamilial homicide suspects are

overrepresented by males, at 69% for intrafamilial and 93% for extrafamilial suspects.

The findings also show that both types of homicide suspects are predominately black. The distribution for extrafamilial offenders is higher at 98%, whereas, 65% of the intrafamilial suspects are black. An interesting pattern was found for regarding white suspects. None of the extrafamilial suspects are white, while 35% of the intrafamilial suspects are white. Also, only one suspect, an extrafamilial homicide suspect is Asian.

The last suspect profile item describes the type of relationship between the suspect and the victim. The results in table 12 show very different patterns for each type of homicide. More than half (58%) of the intrafamilial homicide suspects are the victims' natural parents, all but three of the natural parents are the father of the victim. Also, 4% (one) intrafamilial suspect is a step father, 23% are the parent's paramour, 4% or one suspect is a grandmother, and 11% are the victims' babysitters at the time of death. In comparison, 74% of extrafamilial suspects are friends or acquaintances to their victim. Another 18% are strangers and 8% are police officers who shot the victim (typically the victim was fleeing from a crime scene). Of the three incidents

of extrafamilial homicide that involved more than one suspect, all are friends or acquaintances to the victim.

In summary, there are two distinct suspect profiles for both intrafamilial and extrafamilial homicide suspects. The current data indicate that intrafamilial homicide suspects are typically the natural father of the victim, between 26 and 48 years of age, and black. While the majority of extrafamilial homicide suspects have a similar profile as their victim. The extrafamilial suspects are typically black, male, adolescents, between 14 and 25 years of age, and are an acquaintance or friend of the victim.

The items measuring the suspect's profile are examined further using chi-square statistics. Table 13 shows that the critical values of chi-square statistics, and the degrees of freedom were reached at both the  $p < .001$  levels of significance for four of the five suspect profile items. The item measuring gender reached the .05 level of significance. Based on these findings we can assume there is an association between both types of child homicide and each suspect profile item. The results suggest that the proportions of black, males who are older than 26 years of age, and a caretaker to the homicide victim, are greater among intrafamilial homicides. The

**Table 13**

Chi-Square Statistics - Child Homicide Type by Suspect  
Profile Items

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<u>Item</u>	<u>χ<sup>2</sup></u>	<u>df</u>
Age <sup>a</sup>	14.41***	1
Gender <sup>a</sup>	5.38*	1
Race	17.82***	2
Relation to Victim	71.14***	7
Caretaker <sup>a</sup>	77.45***	1

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\*p<.05 \*\*p<.01 \*\*\*p<.001 levels of statistical significance

<sup>a</sup>Yates Corrected value

proportions of black, males, between 14 and 26 years of age, who are friends or an acquaintance to the homicide victim, are greater among extrafamilial homicides. To examine these relationships further multiple logistic regression models are analyzed (See Appendix A).

### 5.2.2 Family Level Factors

**Research Question Ib. What specific family level risk factors will be different between intrafamilial and extrafamilial child homicide incidents?**

The next group of items to be compared between intrafamilial and extrafamilial homicide incidents, describe the victim's family characteristics. The results are presented in tables 14 and 15. As noted earlier in

this chapter, the item measuring socioeconomic status of the victim's family is dropped from the analysis because of missing data.

Table 14 presents the results for marital status of the victim's parents, and the size of the victim's family, based on the number of children. Marital status is similar for both intra- and extrafamilial homicide cases. Most victims are living with single parents regardless of the type of homicide. Seventy-seven percent of the intrafamilial and 92% of the extrafamilial victims lived with single parents. Intrafamilial victims have a higher rate of married parents at 23%, while only 6% of the extrafamilial victims' parents are married. Also, one extrafamilial victim has a widowed parent.

In comparing the size of the victim's family, the distributions are similar for both homicide categories. Most child homicide victims are the only children in the family, with 52% of the intrafamilial, and 53% of the extrafamilial victims. The second largest family size category for both types of homicide, is victims with more than three siblings, with 22% intrafamilial and 21% of the extrafamilial homicide victims' families. Also, 15% of the intrafamilial and 14% of the extrafamilial victims have one sibling. Finally, 11% of the intrafamilial

Table 14

Child Homicide Categories and Victim Family Characteristics

Item	Type of Homicide			
	Intrafamilial (n=26)		Extrafamilial (n=56)	
	n	%	n	%
<u>Marital Status</u>				
Married	6	23	3	6
Single	20	77	46	92
Widowed	-	-	1	2
Missing data			6	
<u>Family Size</u>				
Victim Only	13	52	23	53
1 sibling	4	15	6	14
2 siblings	3	11	5	12
3+ siblings	6	22	9	21
Missing data			13	

victims and 12% of the extrafamilial victims have two siblings. Overall, the victim's family size is the same for both types of homicide.

In table 15, the results for victims' prior history of child abuse and neglect show differences between each type of homicide. Intrafamilial homicide victims were more likely to experience abuse or neglect before their death. Fifty-six percent of the intrafamilial, while only 28% of the extrafamilial victims experienced abuse and/or neglect at least once before death. However, for all homicide victims, regardless of type, who experienced

Table 15

Child Homicide Categories and Victims' and Siblings Prior Abuse and Neglect

Item	Type of Homicide			
	Intrafamilial (n=26)		Extrafamilial (n=56)	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
<u>Prior History of Abuse or Neglect*</u>				
Yes	9	56	13	28
No	7	44	33	72
<i>Missing data</i>	10		10	
<u>Number of Times Prior Abuse\Neglect Reported*</u>				
1 report	4	44	2	15
2 reports	-	-	2	15
3 or more	5	56	9	70
<u>Siblings Prior Abuse</u>				
No siblings	13		21	
Yes	7	63	11	39
No	4	27	17	61
<i>Missing data</i>	2		7	
<u>Number of Times Siblings Prior Abuse Reported</u>				
1 report	1	14	2	18
2 reports	-	-	-	-
3 or more	6	86	9	82

prior abuse or neglect, most experienced three or more incidents. At least 56% of all intrafamilial, and 70% of all extrafamilial homicide victims experienced abuse and/or neglect three or more times. Another 44% of the intrafamilial victims experienced one incident of abuse or neglect prior to their death. While only 15% of the

extrafamilial victims experienced only one incident, and another 15% experienced two incidents of prior abuse or neglect. Overall, if a victim was abused or neglected there were typically more than three incidents. However, more of the intrafamilial victims, at least 25% more, were victimized prior to death.

Also in table 15 are the results for prior child abuse and neglect of the victims' siblings. It should be noted that almost half of all the homicide victims are the only children in the family. The results are very different for each category of homicide, twice as siblings experienced abuse or neglect prior to the death of an intrafamilial homicide victim. For all of the intrafamilial victims' with siblings, 63% of those siblings were abused or neglected. However, for all of the extrafamilial victims with siblings, only 39% of their siblings were abused or neglected. The number of child abuse and neglect reports for siblings were similar for both categories of homicide. The majority of all siblings abused or neglected experienced three or more incidents, with 86% of the intrafamilial, and 82% of the extrafamilial homicide siblings.

In summary, the results comparing family level risk factors show that victim's family characteristics are

similar with regard to the marital status of the victim's parents, and the size of the victim's family. Both intrafamilial and extrafamilial homicide victim's families are typically single parent families, and the victim is the only child. However, when comparing prior abuse or neglect of both victim's and their siblings, there are large differences. Intrafamilial homicide victims and their siblings experienced more abuse and neglect prior to the victim's death, than the extrafamilial victims. However, for all victims or siblings abused or neglected, they typically were abused or neglected three or more times, regardless of the homicide category.

To examine further, the relationship between intrafamilial and extrafamilial homicides and the family characteristics that include, parent's marital status, size of family, and prior history of child abuse and neglect, chi-square values were analyzed for statistical significance. As shown in table 16, the critical values of chi-square, and the necessary degrees of freedom were reached at the .05 level of significance for two items, marital status of victims' parents and prior abuse and neglect of the victim. Suggesting there is a relationship between these two items and child homicide. The results suggest that the proportion of single parents and prior

Table 16

Chi-Square Statistics - Child Homicide Type by Victim's Family Level Factors

<u>Item</u>	<u>χ<sup>2</sup></u>	<u>df</u>
Marital Status <sup>a</sup>	3.28*	1
Family Size	.13	3
Prior Vic CAN <sup>a</sup>	2.93*	1
Prior Sib CAN <sup>a</sup>	.11	1

\*p<.05 \*\*p<.01 levels of statistical significance

<sup>a</sup>Yates Corrected value

abuse or neglect of victims are greater among intra-familial homicide, and the proportion of single parents is greater among extrafamilial homicides. None of the other items were significant suggesting that the relative frequencies of family size and prior history of abuse and neglect of siblings do not differ for intrafamilial and extrafamilial child homicides. To examine these relationships further multiple logistic regression models are analyzed (See Appendix A).

### 5.2.3 Community level factors

**Research Question Ic. What specific community level risk factors will be different between intrafamilial and extrafamilial child homicide incidents?**

Community level data were only available for the city of Baltimore, Maryland. Therefore, it was not possible to

compare community level factors across the state of Maryland. Community level factors are only analyzed in the next phase of analysis; comparing city child homicide and child abuse and neglect data.

### **Summary.**

In summary, when comparing intrafamilial and extrafamilial child homicide data by victim and suspect profiles, and victims' family characteristics, the patterns of risk are different. Intrafamilial homicide victims are younger, black, males, and about half are the only child in the family. The intrafamilial homicide perpetrator is a caretaker, usually a parent, the victims' parents are generally single, and both victims and siblings have most likely been abused or neglected prior to the victim's death. Extrafamilial homicide victims are older, between 10 and 17 years of age, black, males, and more than half are the only child in the family. The extrafamilial homicide perpetrator often resembles their victim's profile, they are typically black, males, between 14 and 25 years of age. Most homicide victims in general, are from a single parent family. However, extrafamilial victims and their siblings have not typically experienced as much prior abuse or neglect, as intrafamilial victims

and their siblings. Based on the differences found between each homicide category, the next phase of analysis will examine each type of child homicide compared with child abuse and neglect data.

### 5.3 Child Homicide versus Child Abuse and Neglect

The next phase of this study compares the characteristics of Baltimore city level child homicide and child abuse and neglect data. The purpose of this analysis is to determine whether there are different risk factor patterns between child homicide and abuse and neglect incidents, based on three levels of risk, individual, family, and community. Based on earlier findings that show risk differences between intrafamilial and extrafamilial homicide incidents, each homicide category will be compared separately with child abuse and neglect incidents. The basic assumption is that both types of child homicide and child abuse and neglect incidents will have different patterns, across all three levels of risk. The findings are presented in tables 17 through 23.

Only Baltimore city child homicide data are compared with Baltimore city child abuse and neglect data. Both

homicide types are compared with child abuse and neglect incidents. There are a total of 55 child homicide and 210 child abuse and neglect victims dispersed throughout Baltimore city. Of the total number of homicides, 12 are defined as intrafamilial homicides and 43 are defined as extrafamilial homicides.

### 5.3.1 Individual Level Factors

**Research Question IIa.** Are there different individual level risk factors between child homicide, and child abuse and neglect victims?

#### Victim Profile

The first group of items compared across each category of child homicide and child abuse and neglect, describe the victim's profile. With regard to age, the results show that extrafamilial and child abuse and neglect victims have similar patterns. The results in table 17 show that all of the intrafamilial victims are less than 5 years of age, while 98% of the extrafamilial and 60% of the child abuse and neglect victims are between 10 and 17 years. While most homicide victims are male, with 88% of the extrafamilial and 67% of the intrafamilial, only about half of all the abuse and neglect victims are male. The majority of all homicide and abuse

Table 17

Child Homicide and Child Abuse and Neglect Victim Profiles

Item	Type of Homicide					
	Intrafamilial (n=12)		Extrafamilial (n=43)		Abuse/Neglect (n=210)	
	n	%	n	%	n	%
<u>Victim's Age</u>						
< 5 years	12	100	-	-	27	13
5-9 yrs	-	-	1	2	57	27
10-17 yrs	-	-	42	98	126	60
<u>Gender</u>						
Male	8	67	38	88	107	51
Female	4	33	5	12	103	49
<u>Race</u>						
Black	10	83	40	93	182	86
White	2	17	3	7	26	13
Asian	-	-	-	-	2	1
<u>Birthorder</u>						
First Born	3	25	10	24	70	33
Middle Child	7	58	7	13	39	19
Last Born	-	-	10	24	59	28
Only Child	2	17	16	39	42	20

and neglect victims are black, with distributions ranging between 83 to 93%.

Also shown in table 17 are comparisons between homicide and abuse and neglect regarding the birth order position of victims. Patterns for birth order position vary across each type of homicide as well as for abuse and neglect victims. Birth order categories for abuse and neglect victims are distributed across each birth order

category. Whereas, most intrafamilial victims are middle children, and most extrafamilial victims are only children. Eighty-six percent of the intrafamilial homicide victims are middle children, but only 13% of the extrafamilial victims, and 19% of the abuse and neglect victims. Thirty-nine percent of the extrafamilial victims are the only children, 20% of the abuse and neglect, and only 17% of the intrafamilial victims. The largest birth order category for abuse and neglect victims is for first born children, with 33%, but only about 25% of both types of homicide victims are first born children. None of the intrafamilial victims are the last born children, while 24% of the extrafamilial and 28% of the abuse and neglect victims are last born children.

In summary, the findings for victim profile items indicate there are differences between both types of child homicide and abuse and neglect victims. Other than race, none of the individual items are similar for either type of homicide and abuse and neglect victims. Abuse and neglect victims tend to be older than 10 years, black, equally male or female, and of no one particular birth order position. Intrafamilial victims are all less than 5 years of age, black, male, and middle born children. Extrafamilial victims are primarily older than 10 years of

age, black, male, and the only child in their family. Further analyses are performed to establish the relationship between homicide and child abuse and neglect with regard to the items measuring the victim profile.

In examining these relationships further, chi-square values are computed. The results in table 18 show that for age, gender, and birth order position of the victims, the computed chi-squares are larger than the required critical chi-square values. Each item is statistically

**Table 18**

Chi-Square Statistics - Child Homicide and Child Abuse and Neglect by Victim Profile Items

<u>Item</u>	<u>χ<sup>2</sup></u>	<u>df</u>
Age <sup>a</sup>	18.59***	1
Gender <sup>a</sup>	17.76***	1
Race	1.02	2
Birthorder Position	17.63***	3

\*p<.05 \*\*p<.01 \*\*\*p<.001 levels of statistical significance

<sup>a</sup>Yates Corrected value

significant at the .001 level of significance. Based on the findings we can assume that there is a relationship between these victim profile items and child homicide and child abuse and neglect. The results suggest that the relative frequencies of age, gender, and birthorder

position differ for intrafamilial and extrafamilial homicide, and child abuse and neglect. The intrafamilial victim profile is a young, under 5 years of age, male, who is typically the middle child. The typical extrafamilial homicide victim profile is male, between 10 and 17 years, who is the only child in the family. The child abuse and neglect victim is typically between 10 and 17 years, the first born child, and equally a male or female. To examine these relationships further multiple logistic regression models are analyzed (See Appendix A).

### **Suspect Profile**

The next group of items compared, describe the suspects' profiles. In comparing age, the results in table 19 show a similar pattern for both intrafamilial homicide and child abuse and neglect suspects. Sixty-seven percent of the intrafamilial and 76% of the abuse and neglect suspects are older than 26 years of age. Whereas, extrafamilial homicide suspects are more typically less than 26 years of age, at 88%.

With regard to gender and race, overall, most suspects are black, males. Ninety-four percent of the extrafamilial and 70% of the abuse and neglect victims are

Table 19

Child Homicide and Child Abuse and Neglect Suspect Profiles

Item	Type of Homicide				Abuse/Neglect	
	Intrafamilial (n=12)		Extrafamilial (n=43)		(n=210)	
	n	%	n	%	n	%
<u>Suspects' Age</u>						
14-25 yrs	4	33	29	88	49	24
26+ yrs	8	67	4	12	152	76
Missing data			10		9	
<u>Gender</u>						
Male	7	58	31	94	146	70
Female	5	42	2	6	64	30
Missing data			10			
<u>Race</u>						
Black	9	75	32	97	182	87
White	3	24	-	-	26	12
Asian	-	-	1	3	2	1
Missing data			10			
<u>Relation to Victim</u>						
Natural Parent	6	50	-	-	165	78
Foster Parent	-	-	-	-	-	-
Step Parent	-	-	-	-	2	1
Parent Paramour	3	26	-	-	6	3
Other Relative	1	8	-	-	25	12
Babysitter	2	16	-	-	-	-
Acquaintance	-	-	23	63	12	6
Strangers	-	-	11	31	-	-
Police Officer	-	-	2	6	-	-
Missing data			7			

male, while fewer intrafamilial suspects, with 58% are male. Also, 75% of the intrafamilial, 97% of the abuse and neglect, and 87% of the extrafamilial suspects are black. The remaining 24% of the intrafamilial and 12% of the abuse and neglect suspects are white. None of the extrafamilial suspects are white, but one is Asian. Also presented in table 19 are results for victim and suspect relationships. The findings show similarities for both intrafamilial and abuse and neglect suspects, in that most suspects are the victims' natural parents. Fifty percent of the intrafamilial and 78% of the abuse and neglect suspects are the natural parents of the victim. Other typical relationships for both intrafamilial and child abuse and neglect are the parent's paramour (most often the mother's boyfriend), other relatives, and babysitters. For intrafamilial suspects, 26% are the parent's paramour, 16% are the babysitter, and another 8% are other relatives of the victim. Three percent of the abuse and neglect suspects are the parent's paramour, none are the babysitter, and 12% are other relatives of the victim, also 6% are friends or acquaintances of the victim. While the most common victim and offender relationships in extrafamilial homicides are friends and acquaintances to the victim, with 63%. The other 31% are strangers to the

victim, and two incidents involved the police shooting a victim, because the victim was fleeing the scene of a crime.

In summary, the findings show there are similar suspect profiles for both intrafamilial homicide and child abuse and neglect incidents. For both outcomes the most typical suspect profile is a black biological father, older than 26 years of age. However, the suspect profile for extrafamilial homicide incidents is different when compared with child abuse and neglect. The most typical extrafamilial homicide suspect is a black, male, friend or acquaintance to the victim, under 26 years of age.

Further examination of the suspect profile items were analyzed using chi-square values. As shown in table 20, the required critical chi-square values, and the necessary degrees of freedom are reached at the .001 level of significance for four of the five items. Suggesting there is a relationship between the suspects' age, gender, and relationship with the victim and both categories of homicide and child abuse and neglect incidents. The results suggest that the relative frequencies of age, gender, and relationship with victim, differ between extrafamilial homicide and the typical intrafamilial homicide and child abuse and neglect suspect. Both the

Table 20

Chi-Square Statistics - Child Homicide and Child Abuse and Neglect by Suspect Profile Items

Item	$\chi^2$	df
Age	38.93***	1
Gender	44.97***	1
Race	1.66	2
Relationship	135.31***	7
Caretaker	111.45***	1

\*p<.05 \*\*p<.01 \*\*\*p<.001 levels of statistical significance

intrafamilial homicide and child abuse and neglect suspect profiles include males, who are the biological father, and older than 26 years of age. The typical extrafamilial homicide suspect profiles are of males, between 14 and 25 years, who are a friend or acquaintance to the victim. To examine these relationships further multiple logistic regression models are analyzed (See Appendix A).

### 5.3.2 Family Level Factors

**Research Question IIb. Are there different family level risk factors between child homicide, and child abuse and neglect incidents?**

The next group of items compared between each homicide type and abuse and neglect describe the victim's family characteristics. The results are reported in

tables 21 and 22. As noted earlier, one item, socioeconomic status of the victim's family, was dropped from the analysis because of missing data. The results in table 21 show that the item measuring the marital status of the victims' parents is similar for all three outcomes. Most victims are living in single parent households regardless of whether they are a victim of intrafamilial or extrafamilial homicide, or child abuse and neglect. Ninety-two percent of both intrafamilial and extrafamilial victims were living in single parent households, and 86% of the child abuse and neglect victims were living with a single parent. With the exception of one extrafamilial victim and one child abuse and neglect victim who were living with a widowed parent, the remaining victims parents were all married.

Distributions comparing the size of the victim's family, based on the number of children, are also presented in table 21. The results show that family size is somewhat similar for all types of victims, most families are large, with more than three children. More than 30% of the child abuse and neglect victims have three or more siblings, while 26% of the extrafamilial and 41% of the intrafamilial victims have three or more siblings.

Table 21

Child Homicide and Child Abuse and Neglect Victim Family Characteristics

Item	Type of Homicide					
	Intrafamilial (n=12)		Extrafamilial (n=43)		Abuse/Neglect (n=210)	
	n	%	n	%	n	%
<u>Marital Status</u>						
Married	1	8	2	5	27	13
Single	11	92	35	92	182	86
Widowed	-	-	1	3	1	1
Missing data			5			
<u>Family Size</u>						
Victim Only	2	17	17	48	41	19
1 sibling	2	17	5	14	60	29
2 siblings	3	25	4	12	41	19
3+ siblings	5	41	9	26	68	33
Missing data			8			

Only 19% of the abuse and neglect and 17% of the intrafamilial homicide victims are only children. While twice as many (48%) of the extrafamilial victims are the only children. Slightly less than one-third (29%) of the abuse and neglect victims have only one sibling, while 17% of the intrafamilial and 14% of the extrafamilial victims have only one sibling. Another 19% of the abuse and neglect victims have two siblings, while 25% of the intrafamilial and 12% of the extrafamilial victims have two siblings.

Table 22

Child Homicide and Child Abuse and Neglect Prior Abuse and Neglect of Victims and Siblings

Item	Type of Homicide					
	Intrafamilial (n=12)		Extrafamilial (n=43)		Abuse/Neglect (n=210)	
	n	%	n	%	n	%
<u>Prior CAN</u>						
Yes	9	75	13	30	118	56
No	3	25	30	70	92	44
<u>Prior CAN Reports</u>						
1 report	4	44	2	15	20	17
2 reports	-	-	2	15	21	18
3 or more	5	56	9	70	77	65
<u>Siblings Prior CAN</u>						
Yes	7	48	13	30	124	59
No	3	25	13	30	45	21
No siblings	2	17	17	40	41	20
<u>Prior CAN Reports Siblings</u>						
1 report	1	14	2	15	18	15
2 reports	-	-	-	-	29	23
3 or more	6	86	11	85	77	62

Distributions for prior child abuse and neglect of all victims and their siblings are presented in table 22. The findings show that, at 75%, intrafamilial homicide victims experienced the highest percentage of prior child abuse or neglect. Of the 75%, slightly more than half experienced three or more incidents of abuse or neglect prior to death. The percentage for child abuse and neglect victims who experienced prior abuse and neglect

was slightly lower at 56%. Of the 56%, approximately sixty-five percent experienced prior abuse or neglect three or more times. Only 30% of the extrafamilial homicide victims experienced prior abuse or neglect. However, for those who did experience abuse or neglect, 70% experienced the abuse or neglect three or more times. Intrafamilial and child abuse victims have somewhat similar patterns of prior abuse and neglect, however, the percentage of prior abuse and neglect for extrafamilial homicide victims is much lower than that of other victims.

With regard to the prior abuse or neglect of siblings, table 22 shows a slightly higher percentage for siblings of current child abuse and neglect victims. Fifty-nine percent of the siblings of current child abuse and neglect victims experienced abuse or neglect, of those, 65% experienced the abuse or neglect three or more times. The siblings of intrafamilial homicide victims experienced abuse or neglect at a rate of 48%, of those, 86% experienced abuse or neglect three or more times. The lowest percentage of siblings who experienced abuse or neglect are extrafamilial homicide victims. Thirty percent of the siblings of extrafamilial homicide victims experienced abuse or neglect, of those, 62% experienced abuse or neglect three or more times.

In summary, the results show that the majority of all homicide and abuse and neglect victims are from single parent families. Most extrafamilial victims are the only children, while most intrafamilial and abuse and neglect victims have at least two siblings. The results suggest intrafamilial and abuse and neglect victims have similar family profiles regarding prior abuse and neglect of victims and their siblings. Although, extrafamilial homicide victims have slightly lower levels of prior abuse and neglect compared with other types of victims, their siblings experience a similar rate of prior abuse and neglect as both intrafamilial and child abuse and neglect.

To further examine the relationships of the victims' family characteristics, chi-square values were analyzed for statistical significance. As shown in table 23, critical values of chi-square, along with the necessary degrees of freedom were reached at .05 level of significance for the item measuring the victim's family size, and at the .01 level of significance for the item measuring the prior abuse or neglect of siblings. These findings suggest that there is a relationship between the size of the family and prior abuse or neglect of siblings and child homicide and child abuse and neglect incidents. The results suggest that the proportion of children in the

Table 23.

Chi-Square Statistics - Child Homicide and Child Abuse and Neglect by Victim's Family Profile Items

<u>Item</u>	<u>χ<sup>2</sup></u>	<u>df</u>
Marital Status <sup>a</sup>	1.25	1
Family Size	7.85*	3
Prior CAN Victim	2.81	1
Prior CAN Siblings	5.76**	1

\*p<.05 \*\*p<.01 levels of statistical significance

<sup>a</sup>Yates Corrected value

victims' family is greater for intrafamilial homicide and child abuse and neglect families, than for extrafamilial homicide. Also, the results suggest that the proportion of prior abuse or neglect of siblings is greater for intrafamilial homicide and child abuse and neglect incidents. Most extrafamilial homicide victims are the only child, indicating fewer incidents of prior abuse or neglect of siblings. The results show no evidence that the relative frequencies for the other two items, marital status of the victims' parents and prior abuse or neglect of the victim, differ for child homicide and child abuse and neglect. To examine these relationships further multiple logistic regression models are analyzed (See Appendix A).

### 5.3.3 Community Level Factors

Research Questions IIC. Are there different community level risk factors between child homicide, and child abuse and neglect incidents?

The last group of items compared between homicide and abuse and neglect, are the community level factors that describe the victims' community (or census tract) characteristics. The 1990 U.S. Bureau of Census data are for the city of Baltimore, Maryland. All of the homicide and abuse and neglect victims reside in the urban center of Baltimore city. The descriptive results are reported in table 24. There are four items included in the community level factors, each of these items is measured as an aggregate level variable, rather than an individual level variable.

The first item is the percentage of households headed by single parents in communities where homicide or abuse and neglect victims reside. None of the victims' communities had a percentage rate higher than 50%. The distributions for this item show that 100% of the intrafamilial victims' communities, and 98% of both the extrafamilial and child abuse and neglect communities had less than 25% of their households headed by a single parent. The second item measures the percentage of

Table 24

Child Homicide and Child Abuse and Neglect Victim's  
Community Level Risk Factors

Item	Type of Homicide		Abuse/Neglect	
	Intrafamilial (n=12)	Extrafamilial (n=43)	(n=210)	
	n	%	n	%
<u>%Single Head Household</u>				
0-25%	12	100	42	98
26-50%	-	-	1	2
			3	2
<u>%Poverty Level</u>				
0-50%	12	100	42	98
51-100%	-	-	1	2
			185	88
			25	12
<u>%Under 18 years</u>				
0-25%	8	67	24	56
26-50%	4	33	19	44
			109	52
			101	48
<u>%Nonwhite</u>				
0-50%	8	67	36	58
51-100%	4	33	26	42
			98	47
			112	53

poverty in a community. The results show that the percentages across all three victim categories are similar. One hundred percent of the intrafamilial, 98% of the extrafamilial, and 88% of the child abuse and neglect victims' communities had less than 50% of their residents living below the poverty level in 1990. The third item measuring the percentage of the population under 18 years of age is slightly higher for intrafamilial victims, but similar for extrafamilial and child abuse and neglect

victims. None of the victim's communities had a percentage rate higher than 50% of the population. Sixty-seven percent of the intrafamilial communities, 56% of the extrafamilial, and 52% of the child abuse and neglect communities had less than 25% of their residents under 18 years of age. The last item measures the percentage of the nonwhite population in a community. The results show similar findings for all three outcomes. Sixty-seven percent of the intrafamilial, 58% of the extrafamilial and 47% of the child abuse and neglect victims reside in communities where less than 50% of the population are nonwhite. These findings indicate that most victims reside in culturally mixed communities.

In summary, the community level factors show similar patterns across both categories of homicide and child abuse and neglect. Most children who are victims of violence reside in fairly mainstream culturally mixed communities. Victims' communities have a high rate of residents living below the poverty level, most communities have 25 to 50% of their residents living below the poverty level. Also, most homicide and abuse and neglect victims reside in communities with fewer than 25% of the residents residing in single family households. income, household types, and cultural diversity. Finally, most victims of

homicide and abuse and neglect reside in communities where less than 25% of the population is under 18 years of age.

To further examine these relationships chi-square values were analyzed for statistical significance. As shown in table 25, critical values of chi-square, along with the necessary degrees of freedom were reached at the .05 level of significance for one of the four items measuring the victim's community. The results for the percentage of the population living below the poverty level suggest that the relative frequencies slightly differ for child homicide and child abuse and neglect. The results suggest that the proportion of the percentage of the population living below the poverty level is greater for child abuse and neglect victims. There is no evidence that the relative frequencies of the percentage

**Table 25**

Chi-Square Statistics - Child Homicide and Abuse and Neglect Incidents by Community Level Risk Factors

<u>Item</u>	<u>χ<sup>2</sup></u>	<u>df</u>
%SingleHeadHouse	1.63	1
%Poverty <sup>a</sup>	3.94*	1
%Under 18	.69	1
%Nonwhite	.02	1

\*p<.05 \*\*p<.01 levels of statistical significance  
<sup>a</sup>Yates Corrected value

of the population who are nonwhite, percentage of the population under 18 years, or percentage of the population living in a single headed household differ from child homicide and child abuse and neglect. To examine these relationships further multiple logistic regression models are analyzed (See Appendix A).

#### Section 5.4 Causes and Circumstances of Death or Injury

The final phase of the analysis compares the causes and circumstances of both child homicide and child abuse and neglect incidents. The purpose of this analysis is to determine whether the characteristics of the causes and circumstances of death or injury are different for child homicide and child abuse and neglect. The data are examined using crosstabulations to measure the causes and circumstances of death and injury, based on victim's age, race, and gender. Section 5.4 is divided into two subsections, one to explain the causes of death and injury, and the other to explain the circumstances of death and injury. State level child homicide and city child abuse and neglect data are used for this phase of the analysis.

### 5.4.1 Causes of Death and Injury

Research Question IIIa. What are the unique causes of child homicide and child abuse and neglect incidents?

#### Child Homicide Incidents

In examining the causes of death in statewide child homicide cases, the data presented in table 26, show that 66% of all child homicide victims died as a result of gunshot wounds. When comparing the causes of death across each type of homicide there are large variations. The results show that gunshot wounds are the largest category, at 86% for extrafamilial homicide victims. However, only 19% of the intrafamilial victims died as a result of

Table 26

Child Homicide Categories by Causes of Death

Item	All (n=82)		Type of Homicide Intrafamilial (n=26)		Extrafamilial (n=56)	
	n	%	n	%	n	%
Causes of Death						
Gunshot wounds	54	66	5	19	49	86
Beaten, abused	8	10	7	27	1	2
Fire, scalding	7	9	5	19	2	4
Strangulation/ asphyxia	6	7	4	16	2	4
Stab wounds	5	6	3	11	2	4
Malnutrition/ Neglect	2	2	2	8	-	-

gunshot wounds. The largest cause of death category for intrafamilial victims, at 27% was for fatal physical assaults. Other large categories for intrafamilial victims included, 19% who died as a result of arson, 16% were strangulated, 11% died as a result of stab wounds, and 8% died from malnourishment or dehydration. None of the extrafamilial victims died from malnourishment or dehydration, however, 2% died from physical abuse. Extrafamilial victims also died as a result of arson, stab wounds, and strangulation, with each category at 4%.

Distributions for causes of death also varied when controlling for age, as shown in table 27. Older children were more likely to die from gunshot wounds, at 87% while 25% were less than ten years. The findings support most

**Table 27**  
Child Homicide Victim's Age by Causes of Death

Item	All Victims (n=82)		<1-9 yrs (n=28)		10-17 yrs (n=54)	
	n	%	n	%	n	%
Causes of Death						
Gunshot wounds	54	66	7	25	47	87
Beaten, abused	8	10	7	25	1	2
Fire, scalding	7	9	6	22	1	2
Strangulation/ asphyxia	6	7	4	14	2	4
Stab wounds	5	6	2	7	3	5
Malnutrition/Neglect	2	2	2	7	-	-

prior research in that most adolescent street killings involve guns (Toupin, 1993; Goetting, 1993). A small number of older victims died from causes other than gunshot wounds; several died from arson, physical abuse, stabbing, and strangulation injuries, with each distribution less than 5%.

The data support previous intrafamilial research in that younger, more physically vulnerable children are most often victims of fatal abuse or neglect (Christoffel et al., 1981, Christoffel, 1990). The data show that younger victims, less than 10 years, died as a result of physical abuse, injuries from fire, strangulation, and neglect. Both fatal neglect victims were less than one year of age. Twenty-five percent of those under 10 years of age died from physical beatings or gunshot wounds, and 22% died in housefires or from scalding bath water injuries. Slightly more of the younger victims died of stab wounds, at 14% and strangulation, at 7% than the older victims.

Table 28 presents the results when comparing the causes of death by victims' gender, percentages are fairly similar across each cause of death category. The largest category for both male and female victims is gunshot wounds, with 70% of the males and 52% of the females. Ten percent of both males and females were physically beaten,

**Table 28**Child Homicide Victim's Gender by Causes of Death

Item	All (n=82)		Male (n=63)		Female (n=19)	
	n	%	n	%	n	%
Causes of Death						
Gunshot wounds	54	66	44	70	10	52
Beaten, abused	8	10	6	10	2	10
Fire, scalding	7	9	6	10	1	5
Strangulation/ asphyxia	6	7	4	6	2	11
Stab wounds	5	6	3	4	2	11
Malnutrition/Neglect	2	2	-	-	2	11

and both of the malnourished victims were females.

Distributions for arson, strangulation, and stab wounds are between 4 and 11%, and they were similar for both males and females.

**Child Abuse and Neglect Incidents**

Table 29 presents the findings for the causes of injury in Baltimore City child abuse and neglect data. Forty-five percent of the child abuse and neglect incidents are the result of neglect; malnutrition, dehydration, or a lack of supervision required for basic sustenance of life. Twenty-eight percent of the reported incidents of child abuse involved physical abuse, 39%

Table 29

Child Abuse and Neglect Victim's Age by Causes of Injury

Item	All Victims (n=210)		<1-9 yrs (n=122)		10-17 yrs (n=88)	
	n	%	n	%	n	%
Causes of Injury	-	-	-	-	-	-
Gunshot wounds	59	28	28	23	31	35
Beaten, abused	2	1	2	2	-	-
Fire, scalding	39	18	18	14	21	24
Sexual Abuse	16	8	16	13	-	-
Drug Overdose (neglect*)	94	45	58	48	36	41
Malnutrition/Neglect						

\*Result of illegal drug addiction (cocaine, heroin) at birth.

involved sexual assault injuries, and two cases involved fire or scalding injuries. Similar to recent child abuse and neglect research concerning the growing problem of drug addicted newborns, 8% of the reported abuse and neglect cases involved children born addicted to illegal drugs, such as cocaine or heroin. Newborns are addicted to drugs at birth due to the mother's illegal drug abuse behavior while pregnant. None of the abuse incidents involved injuries caused by gunshot wounds.

As table 29 indicates, there are only small variations in the causes of injury when controlling for age of the victim. The most common cause of injury for all victims was neglect, typically malnourishment and dehydration, with younger victims at 48% a slighter higher

risk, than older victims at 41%. The second most common cause of injury was physical abuse, slightly higher for older victims at 35%, rather than younger victims at 23%. Younger children are more likely to suffer from induced drug ingestion, at 13%, while no incidents involved older victims injured by forced ingestion of illegal drugs. Also, two victims under 10 years were injured by fire, while no older victims had injuries due to fire.

As presented in table 30, when comparing causes of injury by the victim's gender the distributions are fairly similar. The largest category of causation for males, at 53% and females, at 37% is for child neglect. The next

**Table 30**

Child Abuse and Neglect Victim's Gender by Causes of Injury

Item	All Victims (n=210)		Male (n=107)		Female (n=103)	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
Gunshot wounds						
Beaten, abused	59	28	27	26	32	31
Fire, scalding	2	1	2	1	-	-
Sexual Abuse	39	18	12	11	27	26
Drug Overdose (neglect*)	16	8	10	9	6	6
Malnutrition/Neglect	94	45	56	53	38	37

\*Result of illegal drug addiction (cocaine, heroin) at birth.

largest category of causation for both gender is physical abuse with 26% for males, and 31% for females. More females were victims of sexual assault with 26%, rather than males, at 11%. Slightly more males, at 9%, than females at 6%, were victims of illegal drug addiction at birth. Both victims of fire injuries were males.

#### 5.4.2 Circumstances of Death and Injury

Research Question IIIb. What are the unique circumstances of child homicide and child abuse and neglect incidents?

##### Child Homicide Incidents

The following items are used to measure the circumstances of death or injury: type of weapon, place of death or injury, time of death or injury, and the number of suspects involved. Characteristics of the circumstances leading to the homicide of children appear to differ depending on the type of homicide. In examining the circumstances of death the results in table 31 show that 88% of the intrafamilial homicides involved some form of physical child abuse or neglect. The remaining 12% resulted in intrafamilial homicides due to housefires set by victims' caretakers. The largest circumstantial category for extrafamilial homicides, at 75% is for street

Table 31

## Child Homicide Categories by the Circumstances of Death

Item	Type of Homicide					
	All		Intrafamilial		Extrafamilial	
	n	%	n	%	n	%
<u>Circumstances</u>						
Argument prior to Abuse/Neglect	8	10	-	-	8	14
Street shooting/gang/drug related	42	51	-	-	42	75
Police Shooting	4	5	-	-	4	7
Arson	5	6	3	12	2	4
<u>Type of Weapon</u>						
Hands, feet, other	5	6	5	19	-	-
Knife/sharp object	7	9	4	15	3	5
Fire, hot liquid	8	10	6	24	2	4
Strangulating device	6	7	4	15	2	4
Malnourishment	2	2	2	8	-	-
Firearm(unknown type)	8	10	-	-	8	14
Shotgun	6	7	3	11	3	5
Automatic weapon	4	5	-	-	4	7
Handgun	36	44	2	8	34	61
<u>Place of Death</u>						
Victim's residence	28	34	24	93	4	7
Other residence	16	19	2	7	14	25
Day Care	-	-	-	-	-	-
Public street/alley	34	41	-	-	34	61
Other	4	5	-	-	4	7
<u>Time of Death</u>						
0001 - 1000	28	34	8	31	20	36
1001 - 1800	31	38	12	46	19	34
1801 - 2459	23	28	6	23	17	30
<u>Number of Suspects</u>						
One	67	89	25	96	42	86
Two	6	8	1	4	5	10
Three	2	3	-	-	2	4
Missing data	7				7	

shootings often associated with criminal or illegal drug activities. Another 14% involved an argument with a friend or acquaintance, most often in someone's residence, just prior to death. Also, 4% involved arson, and 7% involved a police shooting as a result of the victim fleeing from the scene of a crime.

The largest category for type of weapon used in intrafamilial child homicide incidents involved scalding bath water, at 24%. Also, 17% the intrafamilial offenders used their hands, feet, and other body appendages. Other weapons included in intrafamilial homicides were sharp objects, strangulating devices, firearms, arson, and neglect. A total of 87% of the extrafamilial homicides involved firearms. Three types of firearms were used, the most common, at 61% was handguns, also 5% were shotguns, and another 7% were automatic rifles. Other types of weapons used in extrafamilial homicides include, knives at 5%, and 4% each were fire and strangulating devices.

The most common place of death for an intrafamilial homicide was the victim's residence, at 93%. In fact, all intrafamilial homicides, except those involving a babysitter (7%) occurred in the victim's home. While only 9% of the extrafamilial homicide victims died at home, all of which involved an argument between acquaintances prior

to death. The typical place of death, at 61%, for extrafamilial homicide victims was a public street, alley, or parking lot. Several other places for extrafamilial deaths included, 25% in another person's residence, and 7% either in a school yard or parked automobile.

The time of death appears to be similar across each category of homicide with no specific hour more prevalent. Slightly more intrafamilial incidents, at 46% occurred between ten o'clock in the morning and six o'clock at night. Also, the majority of all homicides involved only one suspect. Two incidents of extrafamilial homicides involved three suspects, implying that most incidents involve only one suspect regardless of the type of homicide.

As presented in table 32, distributions for the circumstances of death are very different when compared by victim's age. The two leading circumstances of death for victims between 10 and 17 years, street shootings, at 73%, and arguments with perpetrator, at 14%. Another 7% of the older victims were shot by the police while fleeing from the scene of a crime, 4% died as a result of child abuse or neglect, and two victims died as a result of arson. Victims less than 10 years of age are more likely to die from child abuse or neglect, at 81%. Fifteen percent of

Table 32

Age of Child Homicide Victim by Circumstances of Death

Item	All Victims		<1-9 yrs		10-17 yrs	
	n	%	n	%	n	%
<u>Circumstances</u>						
Argument prior to Abuse/Neglect	8	10	-	-	8	14
Street shooting/gang/drug related	42	51	1	4	41	73
Police Shooting	4	5	-	-	4	7
Arson	5	6	4	15	1	2
<u>Type of Weapon</u>						
Hands, feet, other	5	6	5	18	-	-
Knife/sharp object	7	9	3	11	4	7
Fire, hot liquid	8	10	7	25	1	2
Strangulating device	6	7	4	14	2	4
Malnourishment	2	2	2	7	-	-
Firearm(unknown type)	8	10	1	3	7	13
Shotgun	6	7	3	11	3	5
Automatic weapon	4	5	-	-	4	7
Handgun	36	44	3	11	33	62
<u>Place of Death</u>						
Victim's residence	28	34	23	88	5	9
Other residence	16	19	3	12	13	23
Day Care	-	-	-	-	-	-
Public street/alley	34	41	-	-	34	61
Other	4	5	-	-	4	7
<u>Time of Death</u>						
0001 - 1000	28	34	10	36	18	33
1001 - 1800	31	38	11	39	20	37
1801 - 2459	23	28	7	25	16	30
<u>Number of Suspects</u>						
One	67	89	26	96	41	85
Two	6	8	1	4	5	11
Three	2	3	-	-	2	4
Missing data	7		1		6	

the younger victims died in housefires, and one 8 year old was an innocent victim in a random street shooting.

The most common weapon used with younger victims was scalding bath water or fire at 25%. While the largest weapon category for older victims was handguns at 62%. Overall, the use of firearms in the death of older victims was 87%, while for younger victims it was 25%. Handguns, shotguns, and knives were all used in 11% of the incidents involving younger victims. No automatic guns were used in the death of a victim less 10 years of age. While 18% of the younger victims were physical beaten using the hands, feet, or other body appendages. Knives were used in 7% of the incidents involving older victims. While strangulating devices were used more in the deaths of younger victims, at 14%, rather than older victims, at 4%. One older victim died in a housefire as a result of arson.

In comparing age of the victim and place of death, 88% of the children less than 10 years, died at home, and 9% of the older victims died at home. None of the incidents occurred in a day care facility, however, three younger victims' deaths occurred in a babysitter's residence. The most common place of death for older victims was a public street, alley, or parking lot, at 61%, another 23% died in another person's residence.

Other places of death for older victims were school yards, a vacant lot, and two died in parked automobiles.

No particular time of day was more prevalent for any of the victims regardless of age. Ninety-six percent of the younger victims' and 85% of the older victims' deaths involved one perpetrator. One young victim, less than 10 years, and five older victims were murdered by two perpetrators, and two older victims' were murdered by three perpetrators. In summary, the circumstances of death are very different when comparing by age. Younger children, less than 10 years appear to die as a result of child abuse and neglect injuries. While adolescents are most vulnerable to fatal street shootings, often associated with criminal gang and drug activities.

### **Child Abuse and Neglect Incidents**

The comparisons between the circumstances of injury and the age of the victim of child abuse or neglect are shown in table 33. In examining the type of weapon used in child abuse or neglect incidents, 45% involve neglect due to malnourishment or dehydration. Another 25% of the incidents involved physical abuse, using the hands, feet,

Table 33

Age of Child Abuse and Neglect Victim by Circumstances of Injury

Item	All Victims		<1-9 yrs		10-17 yrs	
	n	%	n	%	n	%
<u>Type of Weapon</u>						
Hands, feet	53	25	24	20	29	32
Knife/sharp object	1	1	-	-	1	1
Fire, hot liquid	3	1	2	2	1	1
Strangulating device	2	1	2	2	-	-
Malnourishment	94	45	57	48	37	40
Firearm	2	1	-	-	2	2
Sexual assault	39	19	17	14	22	24
Illegal Drugs*	16	7	16	14	-	-
<u>Place of Injury</u>						
Victim's residence	197	93	111	93	86	94
Other residence	6	3	4	3	2	2
Day Care	1	1	1	1	-	-
Licensed Day Care	6	3	2	3	4	4
<u>Time of Injury</u>						
0001 - 1000	15	10	8	9	7	11
1001 - 1800	102	66	62	69	40	62
1801 - 2459	37	24	20	22	17	27
Missing Data	56		28		28	
<u>Number of Suspects</u>						
One	207	99	116	98	91	99
Two	3	1	2	2	1	1
Three	-	-	-	-	-	-

\*Result of illegal drug addiction (cocaine, heroin) at victim's birth.

or other body appendages as a weapon, 19% involved sexual assault, and 7% involved the ingestion of illegal drugs. Several other weapons used in abuse and neglect incidents included scalding water, sharp objects, strangulating devices, and firearms, each at one percent. The most frequent place of injury is the victim's residence, at 93%. Other places of injury include, another person's residence and daycare centers. At 66%, the most frequent time of day for an injury was between ten o'clock in the morning and six o'clock in the evening. Ninety-nine percent of all incidents involved one suspect. Also presented in table 33 are the distributions comparing the circumstances of injury by the victim's age. The most frequently used weapon regardless of the victim's age, is child neglect through malnourishment, or lack of proper life sustenance. Forty-eight percent of the younger victims, and 40% of the older victims were neglected. The next most frequent weapon category is hands, feet, or other body appendages, with 20% of the younger victims and 32% of the older victims physical assaulted. The third most common weapon used in the abuse of older victims was sexual assault at 24%, for younger victims both sexual assault and illegal drug ingestion were each used 14%. Strangulating devices and scalding water were used more

often when younger victims were abused, with 2% in each category. None of the older victims were abused with strangulating devices or illegal drug ingestion, but one older victim was injured with scalding water. None of the victims under 10 years were abused using a knife or firearm, although two older victims were shot and one was injured with a knife.

Comparing the place of injury by age, the distributions show that regardless of age most victims are at greatest risk in their own residences. Distributions for time of injury across age groups are basically the same, between ten in the morning and six in the evening is the most at risk time period. Slightly less than a quarter of all victims experienced abuse or neglect between six at night and twelve midnight. All but three victims were abused or neglected by more than offender, two victims were under 10 years, and one was between 10 and 17 years of age. Overall, the characteristics of the circumstances of child abuse or neglect are similar for both victim age groups.

### **Summary**

In summary, the causes of death are very different for intrafamilial and extrafamilial child homicides. Most

intrafamilial deaths are the result of physical abuse, specifically beatings, fire injuries, or gunshot wounds. Most extrafamilial deaths are the result of gunshot wounds. The causes of death seem to vary according to age of the victim, suggesting that most children under 10 years are victims of intrafamilial homicide. While most children between 10 and 17 years are victims of extrafamilial homicide. The causes of death do not seem to vary according to the gender of the victim. The causes of injury with regard to child abuse and neglect victims do not seem to vary according to age or gender of the victim. The child abuse and neglect injuries are most typical of intrafamilial homicide incidents.

The circumstances of death are also very different when comparing intrafamilial and extrafamilial homicide incidents. Most intrafamilial homicide circumstances involve prior abuse or neglect, the weapon is usually the perpetrators hands, feet, or other body appendages, the place of death is usually the victims' residence, and the time of death is usually between ten o'clock in the morning and six o'clock in the evening. Most extrafamilial homicide incidents involve street shootings as a result of criminal or illegal drug activities between the victim and the perpetrator, the weapon is usually a gun

(the majority are handguns), and the time of death usually varies. The circumstances of intrafamilial and extrafamilial child homicide incidents vary according to age. The variation in age of the victim is indicative of most intrafamilial homicides involving younger victims, and most extrafamilial homicides involving older victims.

Child abuse and neglect incidents typically take place in the victims' residence, the typical weapon is lack of basic sustenance (i.e., malnourishment, dehydration). The typical time of injury is the same as intrafamilial homicides, during the day between ten o'clock in the morning and six o'clock in the evening. There is little variation in the circumstances of child abuse and neglect according to the age of the victim. The current data confirm that most intrafamilial homicide incidents are the result of fatal child abuse or neglect.

## CHAPTER 6. SUMMARY AND RECOMMENDATIONS

This chapter summarizes the findings of this study in relation to existing theories and policies. In addition, this chapter discusses recommendations for future research and policy.

The major purpose of this study was to explore and compare the relationship of risk factors between child homicide and child abuse and neglect. We noted earlier that child abuse and neglect may be a contributing factor in the high rates of child homicide (Fein, 1979; Miller and Block, 1982; McCurdy and Daro, 1993). However, prior research has not addressed the issue on whether risk factors of child abuse and neglect is the same for child homicide. More specifically, knowledge about the risks of child homicide is considerably limited. We have assembled multiple level risk factors, standard to the child abuse and neglect research, to compare across child homicide incidents. Relationships were examined based on individual, family, and community level risk factors.

### Comparison of State and City Child Homicide Data

A preliminary phase of the study required that we establish whether child homicide characteristics were

different between Baltimore city and other Maryland city homicide cases. This phase of the analysis was necessary because child abuse and neglect data were not available for the entire State of Maryland. The comparison yielded very similar patterns for all items included in both the individual and family level risk factor categories. Community level factors were not available for the entire state so a comparison was not possible at this stage of the analysis. The results supported the use of city level child homicide data in later stages of the analysis, when comparing child abuse and neglect data.

#### **Comparison of Child Homicide Categories**

In the second phase of the study the child homicide data were compared across each homicide category, intrafamilial and extrafamilial. When the data were split into two categories, we found that more children were victims of extrafamilial homicide. That finding supports trends reported by the National Child Mortality statistics identifying homicide as the leading cause of death for black males between 15 and 19 years of age (Fingerhut and Kleinman, 1989). The comparison of risk factors between intrafamilial and extrafamilial child homicides revealed differences across each level of risk. Based on the

findings, there is strong justification for separating the child homicide data into two categories. Each homicide category demonstrates unique risk factor profiles.

We found the typical profile of an intrafamilial homicide victim was a black, male, under 10 years of age, and the only child in the family. The typical extrafamilial homicide victim profile was the same except for age, the victim was a black, male, between 10 and 17 years of age, and the only child. These findings suggest that regardless of age and the type of homicide, black males, are at the greatest risk of child homicide. Both race and gender have been important factors for targeting extrafamilial victims (Curry and Spergel, 1988; Plass, 1993), throughout prior research. However, the significance of gender and race, with regard to intrafamilial homicide (Goetting, 1989), has never been clearly established. With regard to birth order position, in one descriptive study, (Smith, 1989) it was reported that extrafamilial homicide victims were most likely the only child in the family. However, there are discrepancies in the research regarding the birth order position of intrafamilial homicide victims.

When testing for statistical significance, both age and race were found to be statistically significant. The

results suggest that more children under 10 years of age are victims of intrafamilial homicide, and more children between 10 and 17 years are victims of extrafamilial homicide. There are more black victims of both categories of child homicide. Gender and birth order position did not demonstrate statistical significance. Suggesting that neither category of gender nor any of the four birth order positions have little association with child homicide. The victim profile results support current extrafamilial child homicide research (Schloesser et al., 1992; Harries, 1993; Plass, 1993), showing that most victims are black, male, adolescents. Also, consistent with prior intrafamilial homicide research (Christoffel et al., 1983), the results show that younger black, males are overrepresented in the intrafamilial child homicide data.

In developing an intrafamilial homicide suspect profile, we found that most suspects are black, males, between 26 and 48 years of age, who are the natural parent of the victim. The relationships between the victim and offender are what clarify the definition of each homicide category. However, there are specific types of relationships significant to the role of caretaker and non-caretaker. In examining intrafamilial homicide we found that the majority of caretakers were the natural

parents of the victim. Also, other categories of caretakers suspected of homicide included the parent's paramour, step parents, relatives other than the parent, and hired babysitters.

The current findings for intrafamilial suspects refute most prior research because the majority of suspects are male. Most prior research has found that intrafamilial homicide suspects are more typically the mother of the victim. Although natural parents are the largest category of the intrafamilial homicide suspects, the data indicate that fathers are the most common suspects. Also, all of the substitute parents, i.e., step father and parent's paramours are males in a caretaking role at the time of the child's death. Another item that varies from prior intrafamilial homicide research, is the age of the suspect. Prior research finds that most intrafamilial suspects are teenage caretakers (typically a parent). The current findings show that all but three intrafamilial homicide suspects are older than 25 years of age.

An important finding with regard to extrafamilial homicide suspects was the confirmation that they have the same profile as their victims. The majority of extrafamilial suspects were found to be black, male,

adolescents, (between 14 and 25 years) who are acquainted to, or friends with their victim. Other victim and offender relationship categories included strangers, and police officers. An interesting phenomenon found to be associated with adolescent street crime and illegal drug activities is the increase in the number of children shot by the police. The four victims in the current study who were shot by the police, were all fleeing the scene of a crime. Although, a police shooting is classified as a "justifiable homicide," when adolescents are involved, often the shooting is linked with similar street crime and illegal drug activities associated with the typical extrafamilial homicide.

When testing for statistical significance, all of the suspect profile items were statistically significant. Based on these findings we can assume there is an association between child homicide and each suspect profile item. One item regarding the suspect's profile was not included in the analysis because of missing data. Thirty-four homicide cases were missing data for the item measuring the suspect's prior criminal, alcohol, drug abuse, and victimization history. Although we have established a clear victim and offender relationship, without the inclusion of this item we are unable to test

if there is a link between a suspect's prior criminal and illegal drug using behavior and a child's level of risk. This study should be replicated with this item included in the suspect profile model.

The intrafamilial victim's family characteristics were very similar to extrafamilial victims. Both types of victims were typically from single parent households, and the only child in the family. Unwed mothers have been linked to a higher rate of intrafamilial child homicide risk (Winpisinger et al., 1991; Gartner, 1991). While these results support much of the intrafamilial homicide research, there has been no research identifying single parenthood in families of extrafamilial homicide victims. We also found that the majority of intrafamilial homicide families have histories of abuse and neglect. Typically, both the intrafamilial homicide victim and their siblings experience abuse or neglect prior to the victim's death. A much smaller rate of prior abuse and neglect was found between extrafamilial homicide victims and their siblings. We had expected to find a similar pattern of abuse and neglect between both homicide categories. However, what we did find was that if a child experienced abuse or neglect, they were typically abused or neglected three or more times, regardless of the homicide category. The

differences between each type of homicide, with regard to the victim's prior abuse and neglect may be explained by the age of the victim. In support of prior research, both single parents and victim's prior abuse and neglect were found to be statistically significant. Suggesting that there is an association between marital status and prior abuse or neglect of the victim and child homicide. These findings agree with the work completed more than thirty years ago by Kempe and his colleagues (1962) that when a young child is living with a single parent, and is abused or neglected they are at risk of intrafamilial homicide (Kempe et al., 1962).

An item originally included in the family level model was omitted from this study because of missing data. The item measuring the socioeconomic status of the victim's family was missing data for more than half of the homicide cases. The data were not available in the Child Fatality Review Team records. The homicide cases that did have socioeconomic data available showed that most of the victims' families were receiving full public financial assistance. Knowing that almost half of all child homicide victims were living in low income, or below the poverty level suggests that this item should be investigated further. Prior studies have found a high

level of child homicide victims living below the poverty level (Boone, 1982; Jason et al., 1983; McDowall, 1986). The dynamics of this relationship should be examined further in when replicating this study. Future research should include several additional characteristics with regard to family characteristics. For instance, the educational level of the victim's parents was an item that may be of some assistance in defining the level of income when actual socioeconomic status is not clearly defined or available. In addition, community level characteristics develop specific structural factors that may identify level of income, and level of risk.

#### **Comparison of Child Homicide and Child Abuse and Neglect**

In the third phase of this study the Baltimore city child homicide and child abuse and neglect data were compared across each of the three levels of risk. We found the typical child abuse and neglect victims were older, between 10 and 17 years of age, black children, who were equally male and female. Also, abuse and neglect victims were equally dispersed among each of the four categories of birth order position. The abuse and neglect profile is most similar with the extrafamilial homicide victim.

In testing for statistical significance, three items age, gender, and birth order position all demonstrated statistical significance, suggesting a relationship between these items and homicide and abuse and neglect incidents. These findings suggest that there are differences in the frequencies of each item when comparing child homicide and child abuse and neglect. However, race was not found to be statistically significant. Suggesting there are no differences between homicide and abuse and neglect with regard to race of the victim.

In comparing the suspect profile we found that child abuse and neglect suspects are most similar to intra-familial homicide suspects. For both outcomes the most typical suspect profile is a black biological father, older than 26 years of age. An interesting finding was that more male caretakers were suspects, rather than female. As noted earlier in this chapter, this is an important finding because prior research does not address the male caretaker as a potential perpetrator for intrafamilial child homicide. Historically, mothers of victims have been linked to fatal child abuse and neglect, rather than a male caretaker (Kempe et al., 1962; Jason 1984; Winpisinger et al., 1991). When examining suspect profile items for statistical significance, only one item

was not significant. The suspects' age and gender, relationship of the victim and offender, and suspects who are caretakers were significant at the .001 level of significance. Of most interest was the level of association with regard to age of the suspect. There are significant differences across homicide and abuse and neglect incidents with regard to all four suspect items. The suspect profiles for both child homicide and child abuse and neglect warrant further investigation. There are specific questions that future research should address, such as, "Are more male parents, generally the primary suspect?" "What are the dynamics of victim and offender relationships that may lead to higher risk?" These questions need to be examined further, especially with regard to each category of child homicide.

In comparing the family level risk factors we found similar characteristics for all three types of victims; both homicide categories and child abuse and neglect. The majority of all victims are from single parent families. Also, most of the abuse and neglect and intrafamilial homicide victims have more than three siblings. When testing for statistical significance two items were statistically significant. Both the size of the victim's family and prior abuse of the siblings showed statistical

significance. These findings show that there is an association between family size, and siblings prior abuse and child homicide and child abuse and neglect incidents. The items measuring the marital status of the victims' parents and prior abuse of victims did not demonstrate statistical significance. Suggesting there are no differences between homicide and abuse and neglect, with regard to marital status of the victim's parents and prior abuse of the victim. Much of the prior research supports the theory of young, unwed, low income parents, responsible for the bulk of abuse and neglect (Garbarino, 1976, 1981; Gelles and Lancaster, 1986). Further examination of family risk factors need to be examined with regard to which items in the model should be included, and whether items need to be added. For instance, socioeconomic status needs to be included in future research. In the future the items in the family model should be reassessed and additional items may need to be included.

In comparing the community level factors, we found that most children across both homicide categories and child abuse and neglect victims have similar community level profiles. Most victims reside in communities where up to 25% of the households are single parent households.

Victims' communities have a high percentage of residents living below the poverty level, most communities have at least 25%, and up to 50% of their residents living below the poverty level. Approximately half of all the victims' reside in communities where up to 25% of the residents are under 18 years of age. The remaining victims, the other half, reside in communities where between 25 and 50% of the population is under 18 years of age. Finally, most children who were victims of violence reside in fairly mainstream culturally diverse communities, low income, and single headed households. Most homicide victims reside in communities where up to 50% of the population is nonwhite, while slightly more of the abuse and neglect victims reside in communities where more than 50% of the population is nonwhite.

When comparing the intrafamilial homicide and abuse and neglect, we found that one item statistically significant. The item measuring the percent of the population living below the poverty level demonstrates a greater proportion for child abuse and neglect victims. The other community level items were not statistically significant, suggesting there are no differences between child homicide and child abuse and neglect. These findings dispute most prior research that suggests

violence against children occur most frequently among the poor, minority, single parent families, with at least several children (Goetting, 1993; Plass, 1993).

What we found in this study is that most victims are living in communities with high percentages of children. One might assume that higher percentages of children under 18 years, in a particular community increases the rate of victimization. This is an area that should be examined more closely in future research. The item measuring the percent of the population, who are nonwhite addresses the issue of cultural diversity. Are children at less risk when residing in a community with a low percentage of cultural diversity? At what point does cultural diversity actually increase the level of risk? These are both important questions that need to be addressed in future research. Also, when we attempt to link the theory of subcultural violence with the rate of victimization among children, we need to have an understanding of the community level characteristics. This study has only begun to probe the connection of violence against children and the theory of subcultural violence. In this study we identified a serious adolescent homicide problem in a specific urban center. To analyze this data one step

further, a thorough examination of the community characteristics should be explored.

### **Causes and Circumstances of Death and Injury**

A final objective of this study was to determine if the causes and characteristics of the circumstances of death and injury were different for child homicide and child abuse and neglect. In examining the causes of death and injury we found that the causes of death and injury were different for all three outcomes. The causes of intrafamilial homicides were highly distributed among four categories, physical abuse, fire and burn injuries, gunshot wounds, and strangulation, while the majority of extra-familial homicide causes were gunshot wounds, while almost half of the abuse and neglect victims were neglected. Distributions for all three outcomes did not vary based on age or gender of the victim. In examining the circumstances of death and injury, we found that the type of weapon varied for all three outcomes. Several types of weapons were used in intrafamilial homicides, fire and hot liquids, hands and feet, sharp objects, and strangulating devices. The majority of extrafamilial homicides involved guns. While child abuse and neglect involved malnourishment and dehydration in almost half of

all incidents, the majority of other weapons used were hands and feet, and sexual assault. We also found that the majority of both intrafamilial homicide and child abuse and neglect incidents occurred in the victims place of residence, between ten o'clock in the morning and six o'clock in the evening. The majority of extrafamilial homicides occurred on public streets or alleys at random times of the day. While the majority of all violence, both homicides and abuse and neglect involved only one perpetrator.

#### **Future Research and Policy Recommendations**

There are many research and policy implications based on the findings of this study. Future research that studies violence against children should explore three levels of risk factors, comparing child homicide and abuse and neglect data across multiple cities and states. One recent study by Fiala and LaFree (1988) examined macro level data to compare prediction of child homicide rates in less developed nations. Such a model using both individual and social structural factors would be relevant to compare child homicide data between cities and states. A future replication of this study would be greatly enhanced for instance, by comparing the State of Maryland

child homicide data with another state's child homicide data. In addition, a wider span of time should be considered in a future study. Data should be collected for perhaps a ten year span, to compare differences over time, and to increase the size of the data set.

A major purpose for establishing Child Fatality Review Teams throughout the United States, was based on concern for the increase in the level of severe violence against children. Several major issues prompted the development of the child fatality review process. First, the lack of accountability of unnatural childhood deaths, and second, the inaccurate classification (or cause) of childhood deaths. A research agenda that addresses these concerns and focuses on building a multiagency database will greatly enhance our knowledge and awareness about the intentional injuries and death of children.

Based on the quality of data available, future research should examine both the circumstances and risk factors across each category of death. For instance, in the State of Maryland there are five categories of death based on the cause of death. They include natural, accidental, suicide, homicide, and undetermined causes. Each of these categories should be compared using all three levels of risk. Developing risk patterns across

each cause of death may reveal that some childhood deaths, medically may fit into one category, however, socially, and perhaps legally, the incident should in fact be placed in a different category of death. By following these lines of inquiry, a more accurate classification of death may be possible. Also, identifying risk factors across all categories of death, may detect a high risk population of children, regardless of the type of death. Such a study can be a relevant contribution to the subject of child fatalities. Policies that demand the complete review and investigation of all childhood deaths will ensure the proper classification of deaths.

In general, the systematic review of child fatalities increases the accuracy of the annual death rates of children and the accurate causes of death. Durfee (1989) stresses that as more teams become established and the systematic review of childhood deaths continues, more child homicides will be identified. Durfee points out that there are many less severe cases of homicide that are forgotten and often misrepresented. Childhood deaths may be defined differently based on social and legal interpretation. By incorporating a full scale multidisciplinary review, such misinterpretation may be reduced. A multiple agency approach to the review process

provides an open forum for sharing case information, and increases the accuracy of death classification. Building databases from multiple agency child death reviews also increases the scope of information collected. For example, child death review data should include legal, social, health, and medical examiner data. The child fatality review data increases the quality of data available for future research, and for basing changes in policy.

Further improvement for the Maryland Child Fatality Review process should include expanded membership by all agencies involved in the death of a child. For example, the current review process does not include representation from the State Attorney General's Office. Such representation in the future may assist in establishing support for legislation that requires statewide mandatory child death reviews. Also, consistent representation of law enforcement agents will increase the quality and completion of the child fatality review data.

A policy that establishes protocol for investigating childhood deaths increases the proper classification of a particular death. As noted in chapter 3, a recent policy recommendation made by the State of Maryland Child Fatality Review Team was helpful in the revision of police

procedures for Sudden Infant (SIDS) death scene investigations. The new policy requires police to collect specific death scene evidence that enhances the pathological, social, and legal interpretation of a suspected Sudden Infant death. All agencies involved in the investigation of a child's death now have more detailed death scene data, with regard to environmental risk factors that help to classify SIDS cases from abuse and other medical conditions. Policies similar to these will improve our knowledge, and our ability to intervene and possibly prevent future childhood deaths.

## APPENDIX A

To further compare the three levels of risk factors between both categories of child homicide and child abuse and neglect, multiple logistic regression models were analyzed. Multiple logistic regression<sup>13</sup> models are used because the dependent variable is a binary variable measuring both intrafamilial and extrafamilial homicide. This phase of the study was an exploratory analysis to assess the relative effects of the selected risk factors on child homicide and child abuse and neglect. The primary purpose of this analysis was to assess the strength of the association between each of the risk factor items and the probability of a child homicide versus a child abuse or neglect incident.

However, the results suggest that the small number of cases in each category of child homicide may have resulted in incorrect predictions observed in the risk factor items. Some of the regression model chi-square values were not statistically significant suggesting that the selected risk factors were not the best fit for the data.

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<sup>13</sup>Rather than predicting the value of the dependent variable, the logistic model predicts the log of the odds of an observation being in one category of the dependent variable versus the other.

When earlier results in the study demonstrated that the same risk factors were in fact strong predictors of child homicide or child abuse and neglect. Also, evidence of multicollinearity was found in several logistic regression models. Menard (1995) points out that multicollinearity is often an issue when dealing with small sample sizes. Based on the findings, although a multiple logistic regression analysis may be of some interest, it does not add much to this study. Therefore, a brief interpretation of these results follow.

### **Comparison of Intrafamilial and Extrafamilial Child Homicide**

#### **Victim Profile Items**

The two categories of child homicide are regressed on each of the victim profile items. The dependent variable is coded as a binary variable with one indicating an intrafamilial homicide, and zero for extrafamilial homicide. The items for age, race, and gender of the victim are coded as dichotomous variables for each available category. The item measuring birthorder position is a dichotomous variable with the category of an "only child" as the reference category. In this analysis,

Table 34

Multiple Logistic Regression Results for Intrafamilial Child Homicide by Victim's Profile Items

<u>Item</u>	<u>Coefficient</u>	<u>Odds Ratio</u>
0-10 yrs	4.36**	78.80
Male	.47	1.60
Black	-2.97*	.05
Firstborn Child	-.38	.68
Middle Child	-1.21	.29
Lastborn Child	.18	1.19
Model Chi-Square	44.27***	

\*p<.05 \*\*p<.01 \*\*\*p<.001

because the data were categorized by homicide type, the sample sizes for intrafamilial and extrafamilial homicide were small. Because of the size of each homicide category, the results must be viewed as exploratory. The multiple logistic regression results are presented in table 34.

A statistically significant model chi-square suggests that the victim profile items are an adequate fit.

However, only two items, age and race are statistically significant with regard to child homicide.<sup>14</sup> The findings

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<sup>14</sup>Because of the small sample size used in this study, it is more important to examine the substantive significance of the independent variables' effect on the dependent variable, rather than the statistical significance (Menard, 1995). In examining the substantive significance of the independent variables, the higher the coefficient the stronger the relationship between the victim profile item and intrafamilial homicide.

show that the likelihood younger children, under 10 years of age, will be an intrafamilial homicide victim are about 79 times larger than that of older children.<sup>15</sup> The chances of the occurrence of an intrafamilial homicide are estimated to increase by about 79 times for each increase in the number of victims less than 10 years of age. Suggesting that age is a very useful predictor of intrafamilial child homicide. With regard to race, black children are 20 times more likely than white children of being a victim of extrafamilial child homicide. Suggesting that race is a also a useful predictor of extrafamilial child homicide. The items for gender and birthorder position of the victim demonstrate no statistical significance with regard to child homicide. Suggesting that neither male or female children are at greater risk of homicide, and no particular birth order position increases the risk of a child.

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<sup>15</sup>The odds ratio provides the same information as the regression coefficient just in a different manner. The odds ratio is the number by which we would multiply the odds of an occurrence being an intrafamilial homicide for each one unit increase in the specific independent variable. An odds ratio greater than one indicates that the odds of a homicide being an intrafamilial, increase when the independent variable increases. An odds ratio of less than one indicates that the odds of a homicide being an intrafamilial decreases when the independent variables increase (Menard, 1995).

## Suspect Profile Items

The suspect profile items are coded as dichotomous variables for each available category. The dependent variable is coded as a binary variable with one indicating intrafamilial homicide, and zero for extrafamilial homicide. Although the model chi-square is statistically significant only one item has an individual predictive value on child homicide. The results presented in table 35 show that age is the only suspect item demonstrating statistical significance in predicting child homicide. The findings show that the likelihood a person between 26 and 48 years of age, will be an intrafamilial homicide suspects are about 15 times larger than that of someone younger than 26 years. The chances of the occurrence of

**Table 35**

Multiple Logistic Regression Results for Prediction of Intrafamilial Child Homicide Suspect Profile Items

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Items	Coefficient	Odds Ratio
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26-48 yrs	2.77*	15.93
Male	1.74	5.70
Black	11.50	99207.61
Model Chi-Square	47.53***	

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\*p<.05 \*\*p<.01 \*\*\*p<.001

an intrafamilial homicide are estimated to increase by about 15 times for each increase in the number of suspects older than 26 years of age. Suggesting that age is a useful predictor of intrafamilial child homicide. The items for gender and race of the suspect demonstrate no statistical significance with regard to child homicide. Suggesting that neither category of gender or race are useful items for predicting the risk of a child. However, when the item for race or gender is removed from the logistic model the remaining items become statistically significant. Suggesting that each item is correlated with one another, and the reason they do not show statistical significance in the same model may be caused by multicollinearity.

#### Family Characteristics

Each item measuring the victim's family characteristics were coded as dichotomous variables for each category. Table 36 presents the findings, showing the model chi-square value was not statistically significant, suggesting the items in this model may not be the best fit. The results show that two items have an individual predictive value on child homicide. The marital status of the victim's parents and prior abuse and

neglect of the victim are statistically significant at the .05 level of significance. The likelihood that children of single parents will be a victim of extrafamilial homicide is about 6 times less likely than a child with married parents. Also, the likelihood that abused or neglected children will be a victim of intrafamilial child homicide is about 21 times more likely than a non-abused or neglected child. Both items are useful predictors of intrafamilial homicide. None of the other family items demonstrate statistical significance. Suggesting that the number of siblings in the family and siblings prior experience of abuse or neglect are useful for predicting the risk of a child.

**Table 36**

Logistic Regression Results - Intrafamilial Homicide by Victim's Family Level Risk Factors

<u>Item</u>	<u>Coefficient</u>	<u>Odds Ratio</u>
Single Parent	-1.75*	.17
Other Children	-.37	.69
Prior Vic Abuse	3.04*	20.98
Prior Sib Abuse	-.38	.68
3+ reports victim	-1.09	.34
3+ reports sibling	.51	1.67
Model Chi-Square	10.93	

\*p<.05 \*\*p<.01 \*\*\*p<.001 levels of statistical significance

## Comparison of Child Homicide versus Child Abuse and Neglect

### Victim Profile Items

The relative effects of individual victim profile items on predicting intrafamilial child homicide and abuse and neglect outcomes, were analyzed. The dependent variable is a binary variable coded one indicating child abuse and neglect, and zero for intrafamilial child homicide. The findings are presented in table 37. The model chi-square value is statistically significant, indicating that the items in the model are a good fit for predicting the outcomes of intrafamilial child homicide

**Table 37**

Multiple Logistic Regression - Child Abuse and Neglect and Intrafamilial Child Homicide by Victim's Profile Items

<u>Item</u>	<u>Coefficient</u>	<u>Odds Ratio</u>
0-10 years	10.12	24796.64
Male	- .58	.56
Black	-.31	1.36
First Born	-1.99	.14
Middle Child	-3.50	.03
Last Born	-1.98	.14
Model Chi-Square	30.12**	

\*p<.05 \*\*p<.01 \*\*\*p<.001 levels of statistical significance

and child abuse and neglect. However, none of the four victim profile items are statistically significant. These findings indicate that none of the victim profile items are useful for predicting child abuse and neglect. Suggesting that there are no differences between intrafamilial homicide and child abuse and neglect with regard to victim profile items.

Table 38 presents the findings with regard to the associations between extrafamilial homicide and the victim's profile. The dependent variable is a binary variable coded one indicating child abuse and neglect, and zero for extrafamilial child homicide. The model chi-square value is statistically significant, indicating that the items in the model are a good fit for predicting the outcomes of extrafamilial child homicide and abuse and neglect. The results suggest that age, gender, and last born birth order position are useful predictors of extrafamilial child homicide. Age and gender are statistically significant at the .001 level of significance. The results show that children between 10 and 17 years of age are about 24 times less likely than younger children, of being an extrafamilial homicide victim. With regard to gender, male children are about 11 times less likely than female children of being a victim

Table 38

Multiple Logistic Regression Statistics - Child Abuse and Neglect and Extrafamilial Child Homicide by Victim Profile Items

<u>Item</u>	<u>Coefficient</u>	<u>Odds Ratio</u>
10-17 years	-3.20***	.04
Male	-2.39***	.09
Black	-.14	.87
FirstBorn	.50	1.64
Middle Child	-.25	.78
Lastborn	-.87**	.42
Model Chi-Square	68.32***	

\*p<.05 \*\*p<.01 \*\*\*p<.001 levels of statistical significance

of extrafamilial homicide. Last born children are about 2 times less likely than other children of being a victim of extrafamilial homicide. Suggesting that last born birth order is a strong predictor of extrafamilial homicide. Race and the other two birth order categories demonstrate no statistical significance with regard to child abuse and neglect. Suggesting that these items do not increase the risk of a child.

Suspect Profile Items

To assess the relative effects of the suspect profile items, the two categories of child homicide and child abuse and neglect data are compared. The results in table

39 are based on the dependent variable coded as a binary variable with one for child abuse and neglect, and zero for intrafamilial child homicide. The model chi-square value is significant, demonstrating that the items in the model are adequate predictors of intrafamilial child homicide and abuse and neglect. However, only one suspect profile item, gender demonstrates statistical significance. The findings presented in table 39 show that a male is about 3 times less likely than a female,

**Table 39**

Multiple Logistic Regression Statistics - Child Abuse and Neglect and Intrafamilial Child Homicide by Suspect Profile Items

<u>Item</u>	<u>Coefficient</u>	<u>Odds Ratio</u>
25+ years	.41	1.51
Male	-1.16*	.31
Black	.61	1.85
Model Chi-Square	5.30	

\*p<.05 \*\*p<.01 \*\*\*p<.001 levels of statistical significance

to commit an intrafamilial child homicide. None of the other suspect profile items demonstrate statistical significance, suggesting that no one category of age or race are more likely to be a child homicide suspect.

The findings presented in table 40 show the comparison between extrafamilial child homicide and child abuse and neglect suspects. The dependent variable is coded one for child abuse and neglect, and zero for extrafamilial child homicide. The model chi-square value is significant, demonstrating that the items in the model are adequate predictors of extrafamilial child homicide and abuse and neglect. Three suspect profile items demonstrate statistical significance at the .001 level of significance. Age is a useful predictor of a child abuse

**Table 40**

Multiple Logistic Regression Statistics - Child Abuse and Neglect and Extrafamilial Child Homicide by Suspect Profile Items

<u>Item</u>	<u>Coefficient</u>	<u>Odds Ratio</u>
26+ years	2.60***	13.51
Male	-3.35***	.03
Black	-1.79*	.17
Model Chi-Square	88.93***	

\*p<.05 \*\*p<.01 \*\*\*p<.001 levels of statistical significance

and neglect suspect, and gender and race are useful predictors of extrafamilial homicide suspects. The findings presented in table 40 show that a person older

than 26 years is about 13 times more likely of being a suspect of child abuse and neglect, than a person younger than 26 years of age. With regard to race, a black is about 6 times less likely of being a suspect of an extrafamilial homicide, than a white person. Also, a male is about 28 times less likely than a female, of being a suspect of an extrafamilial homicide. The suspect profile items are different when comparing extrafamilial homicide and child abuse and neglect.

#### Family Characteristics

The relative effects of each of the family factors on both types of child homicide and abuse and neglect were examined using multiple logistic regression models. The results presented in table 41 are based on the dependent variable coded one for child abuse and neglect and zero for intrafamilial child homicide. Each item measuring the victim's family factors were coded as dichotomous variables for each category. The model chi-square value is not significant, demonstrating that the items in the model are not necessarily useful predictors of either intrafamilial child homicide or child abuse and neglect incidents. The results show that none of the items demonstrate statistical significance. Suggesting that none

Table 41

Multiple Logistic Regression Statistics - Child Abuse and Neglect and Intrafamilial Child Homicide by Victim's Family Level Risk Factors

<u>Item</u>	<u>Coefficient</u>	<u>Odds Ratio</u>
Single Parent	- .47	.62
Siblings	.62	3.86
Prior Victim CAN	-1.22	.30
Prior Sins CAN	-1.91	.15
Model Chi-Square	5.60	

\*p<.05 \*\*p<.01 \*\*\*p<.001 levels of statistical significance

of the items measuring the victims' family characteristics are significant predictors of intrafamilial homicide or child abuse and neglect.

The results in table 42 are based on the dependent variable coded as one for child abuse and neglect and zero for extrafamilial child homicide. The model chi-square value is significant, suggesting that the items in the model are adequate predictors of extrafamilial child homicide and child abuse and neglect. Only one item in this model demonstrates statistical significance in predicting child abuse and neglect. The findings show that children of single parents are about 5 times less likely of being victims of extrafamilial homicide, than children of married parents. Suggesting that marital

status of the victim's parents is a useful predictor of extrafamilial homicide. However, none of the other family items in the model demonstrate statistical significance with regard to child abuse and neglect.

**Table 42**

Multiple Logistic Regression Statistics - Child Abuse and Neglect and Extrafamilial Child Homicide by Victim's Family Level Risk Factors

<u>Item</u>	<u>Coefficient</u>	<u>Odds Ratio</u>
Single Parent	-1.61*	.20
Siblings	.65	1.91
Prior Victim CAN	.35	1.42
Prior Sins CAN	.53	1.70
Model Chi-Square	13.84**	

p<.05 \*\*p<.01 \*\*\*p<.001 levels of statistical significance

Community Items

Table 43 presents the results with regard to the relative effects of community level factors for predicting intrafamilial child homicide, or abuse and neglect. The model chi-square value is not significant, demonstrating that the items in the model may not be useful predictors of child abuse and neglect. Only one of the community level items is statistically significant. The results

Table 43

Multiple Logistic Regression Statistics - Child Abuse and Neglect and Intrafamilial Child Homicide by Community Level Risk Factors

<u>Item</u>	<u>Coefficient</u>	<u>Odds Ratio</u>
%Poverty	7.83	2525.40
%Under 18 yrs	2.48***	.24
%Nonwhite	1.47	4.33
%Single HeadHouse	-1.44	
Model Chi-Square	5.72	

\*p<.05 \*\*p<.01 \*\*\*p<.001 levels of statistical significance

show that a community with more than 25% percent of the population under 18 years of age, is about 24% more likely to have residents who are victims of child abuse or neglect, than a community with less than 25% of the population under 18 years of age. None of the other community level factors demonstrate statistical significance, suggesting they are not useful predictors of child abuse or neglect, or intrafamilial child homicide.

Table 44 presents the results with regard to the relative effects of community level factors for predicting extrafamilial child homicide, or abuse and neglect. The model chi-square value is significant, suggesting that the items in the model are adequate predictors of child abuse and neglect. Two of the community level items demonstrate statistical significance. The results show

Table 44

Multiple Logistic Regression Statistics - Child Abuse and Neglect and Extrafamilial Child Homicide by Community Level Risk Factors

<u>Item</u>	<u>Coefficient</u>	<u>Odds Ratio</u>
%Poverty	1.59	4.90
%Under 18 yrs	1.73***	1.78
%Nonwhite	-.67*	.51
%Single HeadHouse	.57	
Model Chi-Square	8.05*	

\*p<.05 \*\*p<.01 \*\*\*p<.001 levels of statistical significance

that a community with more than 25% percent of the population under 18 years of age, is about two times more likely to have residents who are victims of child abuse and neglect, than a community with less than 25% of its population under 18 years of age. The item measuring the percent of the population under 18 years of age is a useful predictor of child abuse and neglect. Also, a community with more than 50% of the population who are nonwhite is about two times less likely to have residents who are victims of extrafamilial homicide, than a community with less than 50% of its population who are nonwhite. The community level item measuring the percent of the population who are non-white item is a useful predictor of extrafamilial homicide. The other two

community level items do not demonstrate statistical significance, suggesting they are not useful predictors of risk.

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