

# DUALLY INVOLVED YOUTH: EXPLORING CHILD WELFARE INVOLVEMENT, MALTREATMENT, AND OFFENSE SEVERITY

Author: Amy J. Griffin

Persistent link: <http://hdl.handle.net/2345/bc-ir:103618>

This work is posted on [eScholarship@BC](#),  
Boston College University Libraries.

---

Boston College Electronic Thesis or Dissertation, 2014

Copyright is held by the author, with all rights reserved, unless otherwise noted.

BOSTON COLLEGE  
Graduate School of Social Work

**DUALLY INVOLVED YOUTH: EXPLORING CHILD WELFARE  
INVOLVEMENT, MALTREATMENT, AND OFFENSE SEVERITY**

A dissertation  
by

AMY J. GRIFFIN

Submitted in partial fulfillment  
of the requirements for a degree of  
Doctor of Philosophy

MARCH 2014

© Copyright by AMY J. GRIFFIN  
2014

**DUALLY INVOLVED YOUTH: EXPLORING CHILD WELFARE  
INVOLVEMENT, MALTREATMENT, AND OFFENSE SEVERITY**

**A dissertation**

**by**

**AMY J. GRIFFIN**

**Dissertation Co- Chairs: Dr. Ruth G. McRoy and Dr. Thomas M. Crea  
Dissertation Committee Member: Francine T. Sherman, JD**

**Abstract**

Youth involved with both the child welfare and juvenile justice systems are referred to as dually involved youth. Children involved in the child welfare system are highly vulnerable for maladaptive outcomes, and in particular, engagement in delinquent behaviors. Those youth who criminally offend are likely to shift back and forth between the two systems, potentially increasing their vulnerability for poor outcomes. The theoretical bases for this study are derived from ecological systems and attachment theories, specifically the influence of trauma on attachment. The Massachusetts Department of Children and Families (DCF) and the Department of Youth Services (DYS) provided the data for this secondary analysis of the characteristics of dually involved youth and the factors related to offense severity for youth committed to DYS. The study explored: 1) the relationship of gender, race, and age of delinquency commitment to offense severity; 2) the influence of child welfare involvement (measured by total unique count of social workers, home removal, and out-of-home placement) to offense severity; 3) the influence of prior maltreatment to offense severity; and 4) the

association of gender and race to the likelihood of dual involvement. Results indicated that while maltreatment was found to be significantly associated with more severe offenses, greater child welfare involvement was associated with less severe offenses. Additionally, the results indicated that female juvenile delinquents were significantly more likely to be dually involved. The issues of racial disproportionality within the juvenile justice and child welfare systems were examined. While results did not indicate statistical significance in determining the likelihood of dual involvement based on race, disproportionality in the juvenile justice system exists. Implications for policy changes included the following: 1) the need for gender specific programming, 2) an increased commitment to reducing disproportionality in the child welfare and juvenile justice systems, 3) increased focus on multisystem services to meet the needs of youth. Strategies for using kinship placements as an avenue to maintain familial connections are discussed. Additional research is needed to explore the influence of the interaction between gender and race, mental health and environment factors (e.g., poverty, neighborhood characteristics) on likelihood of dual involvement.

## DEDICATION

To Dr. Anthony F. Bruno, my teacher, mentor and friend,

I take your memory and lessons with me always.

## ACKNOWLEDGEMENTS

I am truly grateful for all those who have assisted and supported me throughout the years to get to this point. I am truly lucky to have such wonderful family, friends, and be a part of the Boston College community. There are specific people that should be acknowledged in the creation of this dissertation.

To my family, you are always there for me. I would be no where without your support and everlasting love. Fred, you keep me grounded and smiling at the same time. You have helped me through this last hurdle and I am truly grateful to have you in my life. I also want to acknowledge my friends who have stood by me during every step of the way. From editing papers, to keeping me smiling and laughing, I am blessed to be surrounded by such loving and supportive people.

I would like to thank my committee. Dr. McRoy, you have supported me since the day I first met you. It has been a pleasure to work with you on this project, as your teaching assistant, and other projects throughout the years. Ruth, you are an inspiration to me and your words of encouragement helped me every step of the way. Dr. Crea, you always provided invaluable feedback. I will take all your lessons with me and use them within my professional work, for which I am truly grateful. Professor Sherman, your expertise in the field, encouragement and recognition for the need of this research consistently renews my desire to continue my work in this field.

I would also like to thank the Departments of Youth Services and Children and Families, especially DYS Commissioner Peter Forbes and DCF Assistant Commissioner Robert Wentworth. They were integral parts of receiving the data for this study. Their belief in the importance of studying dually involved youth made this project possible. I

would also like to recognize Robert Tansi for his technical expertise and assistance with the IRB process at DYS and Ruben Ferreira and Mary Kennedy for IRB and technical assistance at DCF. Additionally, I would like to thank Commissioner Forbes and Lynsey Heffernan for including me in the Dually Involved Working Group, a group composed of state officials working on addressing the needs of children in care. Finally, my conversations with DCF and DYS would not have begun if it was not for Marylou Sudders. Marylou helped me network to reach out to the necessary individuals to start this process. For that, I am truly grateful.

I would like to recognize Josh Littenberg-Tobias for his statistical expertise and willingness to offer support and encouragement along the way. Additionally, I would like to thank the Boston College GSSW Doctoral Program. This program has made it possible for me to achieve my PhD and study a topic that I am passionate about. In particular, I would like to thank Brenda Vitale, Assistant Director for Academic & Student Services. Brenda has been a constant avenue of knowledge, support, and friendship throughout this program.

I would like to acknowledge all the support the Boston College community has given me throughout the years. It was during my undergraduate years at Boston College that I decided to pursue a career in social work. Coming back to receive my PhD, I will proudly hold the title of Double Eagle. Boston College has been an important place for not only myself but many people within my family. This community is a second home for me. I am truly grateful for the support and resources it has provided, as well as the opportunity to connect with some amazing faculty, Jesuits, and friends during all my years on the Heights. It has been a truly special experience.



## TABLE OF CONTENTS

DEDICATION .....	i
ACKNOWLEDGEMENTS .....	ii
TABLE OF CONTENTS .....	iv
LIST OF TABLES .....	vi
Chapter I. Introduction .....	1
Purpose .....	1
Significance .....	5
Juvenile Delinquency .....	5
Child Maltreatment .....	8
Definitions and Prevalence .....	8
Out-of-Home Care Placement Prevalence .....	12
Economic Cost of Child Maltreatment .....	13
Dually Involved Youth .....	14
Chapter II. Literature Review .....	16
Conceptual Framework .....	16
Ecological Systems Theory .....	16
Trauma and Attachment Theory .....	19
Overview of Child Maltreatment and Delinquency Literature .....	24
Maltreatment and Juvenile Delinquency .....	24
Dually Involved Youth .....	31
Female Juvenile Delinquents .....	33
Racial Disproportionality in Child Welfare and Juvenile Justice Systems .....	35
Research Questions and Hypotheses .....	39
Chapter III. Method .....	42
Data Sources .....	42
Sampling Design .....	44
Missing Data Issues .....	44
Measures .....	45
Dually Involved Youth .....	45
Maltreatment .....	45
Child Welfare System Involvement .....	46

Offense Severity.....	50
Analysis.....	50
Chapter IV. Findings.....	53
Sample Characteristics.....	53
Correlations of Control Variables.....	57
H <sub>1</sub> : Greater child welfare involvement (total unique count of social workers, home removal, and out-of-home placement) will relate to greater severity of offense for dually involved youth. ....	58
H <sub>2</sub> : Dually involved youth in child welfare care as a result of maltreatment will commit more severe offenses.....	62
H <sub>3</sub> : Minority juvenile delinquents, specifically African American youth, will be more likely to be dually involved compared to White juvenile delinquents. ....	65
H <sub>4</sub> : Females juvenile delinquents will be more likely to be dually involved compared to male juvenile delinquents. ....	65
Chapter V: Discussion .....	69
Introduction.....	69
Child Welfare System Involvement.....	69
Maltreatment.....	71
Female Delinquency .....	73
Racial Disproportionality.....	74
Limitations.....	78
Policy Implications .....	81
Racial Disparities.....	82
Gender Disparities .....	86
Multi-Systemic Youth.....	89
Out-Of-Home Care and Trauma .....	90
Conclusion .....	94
References.....	95
Appendix A. AFCARS Reasons for Home Removal (U.S. DHHS, 2012). ....	138
Appendix B. DYS Grid Level (DYS Legal Department, 2014).....	139
Appendix C. Offense Type Definitions .....	140

LIST OF TABLES

Table 1. *Descriptive Statistics on Committed Youth and Bivariate Analyses on Dually and Non-Dually Involved Youth*..... 53

Table 2. *Sample Characteristics of DCF Involvement for Dually Involved Youth*..... 56

Table 3. *Correlations Among All Control Variables* ..... 58

Table 4. *H<sub>1</sub>: Hierarchical Linear Regressions on Offense Severity* ..... 60

Table 5. *Hierarchical Linear Regression: Offense Severity by Demographics and Child Welfare Involvement* ..... 61

Table 6. *H<sub>2</sub>: Hierarchical Linear Regressions on Offense Severity* ..... 63

Table 7. *Hierarchical Linear Regression: Offense Severity by Demographics and DCF Case Type*..... 64

Table 8. *H<sub>3</sub>: Hierarchical Logistic Regressions on Dual Involvement* ..... 67

## **Chapter I. Introduction**

### **Purpose**

A relationship between child maltreatment (e.g., neglect and different forms of abuse) and delinquency has been well established within the research literature (Herz & Ryan, 2008; Widom, 1989). However, the study of youth that “crossover” from the child welfare system to the juvenile justice system is a relatively new arena of research.

“Crossover youth” is an umbrella term used to describe youth who have experienced some form of maltreatment and engaged in delinquent acts, but are not necessarily formally involved or even known to the child welfare or juvenile delinquency systems (Herz, Lee, Lutz, Stewart, Tuell, & Wiig, 2012; Herz, Ryan, & Bilchik, 2010). More specific types of crossover youth, such as “dually involved youth” and “dually adjudicated youth,” have also been discussed within the research literature (Herz et al., 2012; Herz et al., 2010). “Dually involved youth” represent a portion of crossover youth who are known to both the child welfare and juvenile justice systems on some level for services (formal and/or informal). The term “dually adjudicated youth” refers to youth who are formally processed by both systems and are under the care of both systems.

The focus of the current research includes dually involved youth or youth who have had formal involvement with both systems, but this may not necessarily involve simultaneous involvement. Due to the relatively recent nature in studying this population of youth, there exists an ambiguity in the research and practitioner community about which is the correct term to use. The decision to use the term “dually involved” in this study stems from both the research in the field (Herz et al., 2012; Herz et al., 2010) and the terminology currently used in Massachusetts in an ongoing working group of officials

representing the Department of Youth Services (DYS) and the Department of Children and Family (DCF). This working group aims to identify the population characteristics of dually involved youth and create potential programs aimed at this target population.

Due to the lack of longitudinal studies which connect maltreatment to delinquency, the exact pathways that illustrate how youth become involved in both systems are unknown (Herz et al., 2010). However practitioners and researchers suggest youth become dually involved in both the child welfare and juvenile justice systems through the following four pathways of identification: 1) a child has an open case within the child welfare system and is arrested for some delinquent act; 2) a child has a closed case with the child welfare system but is arrested for some delinquent act; 3) a child is arrested for a delinquent act and in the course of the investigation, maltreatment is identified, causing child welfare services to be involved; 4) a child is adjudicated to a correctional facility and upon his/her release does not have a safe home to return to, upon which a case is opened for him/her in the child welfare system to find a substitute placement. The most typical pathway for dual involvement involves the first mentioned pathway, identification of the youth through an arrest and also having a known child welfare case (Cusick, Goerge, & Bell, 2009; Herz et al., 2012).

It is not typical practice for the two jurisdictions (child welfare and juvenile justice) to have an ongoing data sharing relationship regarding youth that crossover from one jurisdiction to the other. When data sharing does occur, it typically happens during specialty projects or task forces that include matching cohorts of youth. These data sharing projects historically just involve basic demographic characteristics, not longitudinal studies examining the course of systems involvement. As such, there are no

national statistics for dually involved youth (Herz et al., 2010), resulting in this population remaining largely invisible.

In the instances where certain counties and states have provided data for the study of crossover youth (e.g., Herz et al., 2012; Herz et al., 2010; Ryan & Testa, 2005), the following trends have emerged: minority youth are disproportionately represented (compared to the general child welfare and juvenile delinquency populations), the majority are male, have special education needs, mental health diagnoses, drug use issues, are more likely to commit a person based offense (typically assault), and their age of first offense tends to be younger than the general delinquency population. These studies also suggest that female juvenile delinquents are more likely than their male delinquent counterparts to have histories with the child welfare system (Halemba & Siegel, 2011; Herz & Ryan, 2008). Many crossover youth have witnessed domestic violence within their homes or have parents who have been involved with the criminal justice system, have been in the child welfare system for long periods of time, or have experienced an out-of-home placement and/or experienced foster care mobility (Halemba, Siegel, Lord, & Zawacki, 2004; Halemba, & Siegel, 2011; Herz & Ryan, 2008; Kelley, Thornberry & Smith, 1997; Ryan, Herz, Hernandez, & Marshall, 2007; Ryan, Hong, Herz, & Hernandez, 2010). Yet, this research is still relatively new and more is needed to give a better understanding of the influences and effects of dual involvement. Additionally, studies on the influence of systems may provide additional insight about maltreated youth who engage in delinquent acts.

The current study was designed to identify the subset of crossover youth, known as “dually involved youth”, within the Massachusetts Departments of Children and

Families (DCF) and Youth Services (DYS). Currently, in Massachusetts, dually involved youth refers to youth who currently or previously had an open investigation with DCF (i.e., care and protection, voluntary care, or CRA ('Child Requiring Assistance' formally known as CHINS or 'Child In Need of Service'), and those youth who are or have been detained or committed by DYS. Through exploring the child welfare histories of dually involved youth, a better understanding of characteristics of this population may emerge, along with potential influences on delinquency. It is hoped that the findings from this retrospective research study can be used to develop better services to meet the needs of youth in the child welfare system and prevent any possible subsequent involvement with the criminal justice system.

Knowledge of this population of youth may assist staff in identifying effective treatment modalities and provide judges with a more complete picture of the characteristics and background of the youth. This type of knowledge could assist in the drive to find alternative forms of care compared to juvenile delinquency commitment (JDAI, 2013). The hope of this study is to begin to understand the youth specific to Massachusetts. It is hoped one day the Commonwealth will be able to use this information to develop practice models that will address the needs of youth coming to the attention of DCF. Ultimately, this research may begin the process to develop a better understanding and awareness of the behaviors of this population of youth, which can then be provided to practitioners and professionals (DYS, judges, and probate) working with this population.

## Significance

### *Juvenile Delinquency*

National trends in juvenile delinquency have indicated a decline in youth committing crimes since 2010. The juvenile offender population in custody has declined by one-third since 1997 (OJJDP, 2013). Across the country in 2010 there were an estimated 1.64 million arrests of youth under the age of 18 years old (U.S. Department of Justice, 2011). Additionally, according to 2009 statistics, juveniles made up 15% of all person based (violent) crime arrests and 24% of all property crime arrests. Person based crimes include murder, rape, robbery, and aggravated assault, whereas property crimes include burglary, larceny, motor vehicle theft, and arson (U.S. Department of Justice, 2011). However, clarity is needed to better understand the trajectory and influences of juvenile offenses. This type of research may help to better inform diversion, intervention and potentially prevention programs for future criminal behavior.

In recent years, the Commonwealth of Massachusetts has also seen a decline in juvenile crime. The person based crime rates in 2009 declined to 291 per 100,000 youth, which represented an 8% decrease from 2008 and a 36% decrease from 1998. Additionally, the property crime rate declined to 556 per 100,000 youth, which represented a 4% decrease from 2008 and a 45% percent decrease from 1998 (U.S. Department of Justice, Dec. 2011). In 2010, the profile of offenses committed by youth was largely composed of person based offenses (52%), followed by the next highest as property based offenses (24%) (OJJDP, 2013). Crime is also a serious economic concern. The economic cost remains a strain on the Commonwealth of Massachusetts for youth engaging in crime, as the cost of juvenile detention is estimated at \$90,000/year per



person, or \$250/day (Department of Youth Services, 2011). While the declining figures are positive, the youth that do engage in delinquent acts, are at an increased risk for poorer adult outcomes, such as future incarceration, mental health issues, and reliance on public welfare (Aos, Miller, & Drake, 2006; Culhane, Metraux, & Moreno, 2011).

Nationally, two populations that appear to be even more vulnerable and likely to be included in juvenile delinquency statistics are minority youth and females. As of 2010, Black youth are held in custody at a rate 4.5 times higher than White youth, and Hispanic youth are held in custody at a rate 1.8 times higher than White youth (OJJDP, 2013). Minority youth experience arrests at a rate much higher than their representation within the national population, especially for Black youth. In 2010, the racial composition of White and Black youth (ages 10-17 years) within the United States was 76% White (these figures may include Hispanic youth as well) and 17% Black youth. However, when assessing arrest rates in 2010, White youth made up only 47% of those arrests for person based crimes and 64% of property crimes, whereas Black youth made up 51% of violent crime arrests and 33% of property crime arrests (OJJDP, 2013b). Statistics suggest differences in offense patterns exist as well, as minority youth accounted for 75% of all youths held in custody for person based offenses in 2010 (OJJDP, 2013). While these figures alone suggest that minority youth may be more violent than White youth, researchers suggest these statistics results from prejudices within the system. “Youth of color, especially African Americans, are more likely to receive harsher treatment when involved in school discipline proceedings, child welfare cases, or the juvenile justice system” (Ross, 2009, p. 8). These figures exemplify the striking overrepresentation of minority youth involved within the juvenile justice system

and the potential failing of the system to adequately meet the needs of this vulnerable population. Researchers suggest that these levels of disproportionality may be the results of institutional racial bias (Alexander, 2012; Cabaniss, Frabutt, Kendrick, & Arbuckle, 2007; Piquero, 2008).

Females are also becoming an increasingly vulnerable population within the juvenile justice system. Between 1990 and 1999, the instances of females entering juvenile detention rose 50% compared to only a 4% increase for males (Harms, 2003). While arrests decreased for both males and females, between 2001 and 2010, the female arrest rate decreased at a lower rate than males, especially in the areas of aggravated assault, simple assault, larceny-theft, and vandalism (OJJDP, 2013b). Trends also indicate a spike for females committing person based offenses since 1980. At that time the arrest rate for juvenile male person based crime was 8 times higher than the female arrest rate. However, by 2010 the male person based crime rate was only 4 times higher than the female rate (OJJDP, 2013b). Researchers have noted a potential “gender bias” occurring in the justice system since the 1970s. This bias may increase the likelihood of girls being committed for less serious offenses and held for longer periods of time compared to their male counterparts (Chesney-Lind & Shelden, 2004). Research suggests that both race and gender negatively influence the likelihood of youth receiving needed services in the juvenile justice systems (e.g., mental health services) (Burns, Phillips, Wagner, Barth, Kolko, Campbell et al., 2004), and these characteristics are also associated with receiving harsher sentences (Kempf-Leonard & Sample, 2001). For all youth involved in the juvenile justice system, more information is needed to explore the

dynamics involved in delinquency, so that prevention and intervention responses may be better informed.

### *Child Maltreatment*

#### Definitions and Prevalence

There are four major types of childhood maltreatment: physical abuse, sexual abuse, psychological abuse, and neglect (Leeb, Paulozzi, Melanson, Simon, & Arias, 2007). The federally sponsored Keeping Children and Families Safe Act of 2003 amended the federal Child Abuse Prevention and Treatment Act (CAPTA) to define child abuse and neglect as “any recent act or failure to act on the part of a parent or caretaker which results in death, serious physical or emotional harm, sexual abuse or exploitation, or an act or failure to act which presents an imminent risk of serious harm” (U.S. DHHS, 2012). This definition is the minimum standard used by the federal government. States are able to build off this standard and create their own specific definition of what constitutes child abuse and neglect.

The Commonwealth of Massachusetts defines neglect as “failure by a caregiver, either deliberately or through negligence or inability, to take those actions necessary to provide a child with minimally adequate food, clothing, shelter, medical care, supervision, emotional stability and growth, or other essential care” (Code of Mass. Regs. Tit. 110, § 2.00); and physical abuse as “the nonaccidental commission of any act by a caregiver upon a child under age 18 that causes or creates a substantial risk of physical or emotional injury, or constitutes a sexual offense under the laws of the Commonwealth, or any sexual contact between a caregiver and a child under the care of that individual” (Code of Mass. Regs. Tit. 110, § 2.00).

When an allegation of child abuse or neglect is brought to the attention of the authorities, the state child welfare agency will decide whether an intervention is needed. The decision-making process of the child welfare agency includes deciding to pursue a formal investigation to determine if maltreatment is substantiated and if the child and family are in need of in-home services. When an investigation begins, if enough immediate danger is present, a child will be removed from the home (Jonson-Reid, 2002). The decision to remove a child from the home is also based on the severity and possible pattern of abuse, responses to past services from the child welfare system, and the likelihood of reoccurrence (Britner & Mossler, 2002). When a home removal does occur, the goal and motivation of child protective services is to work towards family reunification. Family reunification only occurs after a family adheres to the recommendations made within the family specific case plan. If reunification is not possible or becomes not possible (if the parent(s) continuously does/do not meet the standards set forth by the child protective services), the parental rights are terminated by the court system and the youth is placed in foster care with the hope of adoption (DCF, 2013a).

Child maltreatment affects thousands of youth throughout the country each year. In 2012, 3.8 million children were referred to child protective services for investigation of maltreatment, of these cases 17.7% were substantiated (U.S. DHHS, 2013). In 2009, the U.S. Department of Health and Human Services for the first time began to account for unique and duplicate victims of child maltreatment. The term 'unique' refers to counting a child only once, regardless of the number of times that the child may be reported as a victim in a given year, whereas the term 'duplicate' measures

a child each time they were reported to be a victim. As such, according to data from the 2012 National Child Abuse and Neglect Data System (NCANDS), approximately 678,810 unique numbers of children (down from 702,000 in 2009) were found to be victims of child maltreatment. Using the unique child data, it is estimated that 78.3% suffered neglect, 18.3% were physically abused, and 9.3% were sexually abused (U.S. DHHS, 2013). After approximately ten years of declining figures, recent data indicate that officially reported sexual abuse and physical abuse cases rose during the 2011-2012 data collection period (2% and 5% respectively), whereas cases of neglect declined (3%). There was also a 4% increase in child fatalities as the result of maltreatment (Finkelhor, Jones, Shattuck, & Seito, 2013).

In 2012, 73,439 Massachusetts children were referred to child welfare services due to maltreatment allegations; of these cases 26.2% (19,234) were substantiated. Of the substantiated claims, 98.3% were victims of neglect, 15% were victims of physical abuse, and 4.2% were victims of sexual abuse (U.S. DHHS, 2013). The foregoing percentages total greater than 100% due to the fact that many forms of abuse happen in conjunction with each other. These federal and state figures indicate that parental neglect is the main reason children enter into the foster care system. Similar to national trends, Massachusetts experienced a 6% rise in officially reported sexual abuse cases, but a 5% decrease in physical abuse and 4% decrease in neglect cases between 2011 and 2012. Long term trends indicate between 1992 and 2012 official reports of sexual abuse have decreased 67%, neglect reports decreased 57%, but physical abuse reports increased 2 percent (Finkelhor et al., 2013). Massachusetts data on child fatalities were not present in the national reporting statistics presented in the National Child Abuse and Neglect Data

System (NCANDS) between 2011 and 2012 (Finkelhor et al., 2013), however recent media coverage on the Department of Children and Families indicate that fatalities have occurred within the recent past of among children in protective child welfare care (McKim, 2014).

Although the focus of this research will be on youth who have been formally known to child welfare services at some point, it should be noted that not all maltreatment is captured within official statistics. Research indicates that the child protective services underestimate the actual incidences of child maltreatment (Hussey, Chang, & Kotch, 2006; Swahn et al., 2006). In a study of 1,829 detained youth between 1995 and 1998 in Cook County, Illinois, 16.3% had a court record of maltreatment, however, 82.7% reported maltreatment and 9.4% reported severe maltreatment (Swahn, Whitaker, Pippen, Leeb, Teplin et al., 2006). Similar findings of underreporting were later confirmed in a study of Missouri based delinquent youth; self-reports suggest 61% were abused or neglected, a percentage much higher than official records (Dannerbeck & Yan, 2011). Findings from a 2008 nationally representative study of U.S. children under the age of 18 years old, suggested that 10.2% of youth experienced some form of maltreatment (Finkelhor, Turner, Ormrod, & Hamby, 2009). This figure is more than twice as large as the 4.5% children referred to child protective services in 2011, suggesting that many instances of maltreatment go unreported. Better screening tools for abuse and neglect, increased data sharing between child welfare and juvenile justice departments, and improved training for all mandated reporters to recognize maltreatment may help the issue of underreporting.

### Out-of-Home Care Placement Prevalence

Not all youth that experience maltreatment will be removed from their homes. However, as noted, when imminent danger is present or abuse is likely to reoccur (Britner & Mossler, 2002) children will be removed from their home. On September 30, 2012, 397,122 youth were in foster care (U.S. DHHS, 2013). Of these youth, more than three-quarters were in non-relative foster care and approximately one-quarter (101,666) were waiting to be adopted (U.S. DHHS, 2013). There has been a noted decline in the number of children entering foster care between 2002 and 2011 by approximately 22%. Even with this decline, many children are still removed from their birth homes and placed in the foster care system. While the majority of youth in foster care are White, the national racial breakdown of youth in foster care is not equivalent to the general population (which will be discussed below). In 2012, the racial breakdown of youth in foster care was: 42% White, 26% Black, 21% Hispanic, 2% American Indian/Alaskan Native, 1% Asian, and 9% multiracial or unable to determine (U.S. DHHS, 2013).

On December 31, 2012, there were 7,302 children in the Massachusetts foster care system. Approximately 27% of these youth have been in continuous care for less than 6 months, whereas 42% have been in continuous care between 6 months and 2 years. The number of children in foster care in Massachusetts has declined since 2008 (from 10,405). Of the youth in foster care in 2012, 33% were under 6 years, 36% were between the ages 6 and 12 years old, and 45% were older than 12 years. The Massachusetts foster care racial demographics are similar to national figures: 47% White, 25% Hispanic, 15% Black, 1% Asian, and 11% labeled as “Other” (DCF, 2013b).

## Economic Cost of Child Maltreatment

Childhood trauma and abuse have been associated with negative long-term effects. The seminal Adverse Childhood Experiences (ACE, 1998) study conducted by Kaiser Permanente and the Centers for Disease Control and Prevention analyzed survey responses of 17,337 adult HMO members between 1995 and 1997. The survey asked questions regarding childhood experiences such as adversity (e.g., neglect, abuse) and family dysfunction (e.g., alcoholic parent, mental illness, domestic violence). The study results indicated connections between childhood adversity early in life and later adult health issues, such as heart disease, stroke, diabetes, cancer, obesity, sexually transmitted diseases, and liver disease (Felitti, Anda, Nordenberg et al., 1998). The ACE study alludes to the fact that trauma in children is pervasive and associated with expensive long-term costs, not just the immediate issues more readily studied. The long-term economic issues associated with childhood maltreatment stresses the importance of intervention and prevention. Additionally, these potential long-term costs should be factored into the economic evaluations of interventions targeting maltreatment.

Fang, Brown, Florence, and Mercy (2012) analyzed the economic burden of childhood maltreatment on future health care (short- and long-term, including physical and mental health) costs, workforce productivity losses, criminal incarceration, and special education costs. The findings from their study suggest the short-term medical costs for nonfatal victims (ages 6-17) of childhood maltreatment in 2010 were \$32,648 per victim, a figure much higher compared to non-child maltreatment victims (\$10,530 per case in 2010 dollars). The long-term medical costs (ages 18-64) for victims of child maltreatment experienced an additional \$582 average on individual annual health care



expenditures. Workforce productivity losses, or the measure of potential loss of earnings due to childhood maltreatment (between the ages of 18-64), suggest that those with trauma histories earn \$5,890 less compared to their non-maltreated counterparts. The cost to states for child protective services is not minimal either; in the fiscal year 2006, states spent \$25.7 billion in combined federal, state, and local funds on child welfare activities (DeVooght, Allen, & Geen, 2008). This translates to an estimated \$7,728 in child welfare costs per investigated child in 2010 dollars. The criminal justice cost per juvenile arrest is \$24,513 (based on the mean age of arrest at 14 years), including administrative expenditures, residential treatment, community treatment or probation services, and release. The total estimated average lifetime costs of childhood maltreatment based on their findings are \$210,012 in 2010 dollars per victim (Fang et al., 2012). This translates to over \$143 billion in 2010 dollars for the 681,000 new substantiated non-fatal cases of child maltreated in 2012. These studies allude to the negative economic impact of child maltreatment, a finding that should factor into new policy standards for child welfare departments, based on research aiming to prevent or curb further system involvement.

### *Dually Involved Youth*

Currently, there is no exact measure of the number of youth who are dually involved with both the child welfare and juvenile justice systems or, in the broader sense, experienced any form of maltreatment and also engaged in delinquent acts nationally (Cusick et al., 2009; Herz et al., 2010; Ryan, 2006). States differ in their reporting methods of children that come into their care, as well as the unlikely data collaboration between systems. The two administrative bodies (child welfare services and the juvenile justice system) are rarely integrated, thus making it difficult to capture and estimate the

population of youth who are involved with both systems (Herz, Krinsky, & Ryan, 2006; Herz & Ryan, 2008; Herz et al., 2010).

This study of dually involved youth is important as it addresses a particularly high-risk population of youth. Previous research suggests that a range between 9 and 50% of youth involved in the child welfare system, self-report engaging in delinquent behavior, typically at higher rates compared to official juvenile justice administrative data (Kelley et al., 1997; Ross, Conger, & Armstrong, 2002; Steward, Dennison, & Waterson, 2002). Youth in out-of-home care appear to be arrested more frequently and engage in delinquent acts such as property (e.g., vandalism) and person-based offenses (e.g., assault) at an earlier age compared to youth not in out-of-home care (Kelley et al., 1997; Ryan & Testa, 2005; Widom, 1989). However, the process or factors that lead to this increase in delinquency among dependent youth is under-researched. The studies available that assess potential connections between dependent youth and juvenile delinquency focus on social control (such as parental monitoring, religiosity, and connections to school) and placement type (e.g., group homes, kinship care, foster care) (English, Widom, & Branford, 2002; Ryan & Testa, 2005; Ryan, Testa, & Zhai, 2008). In recent years, research has emerged that begins to explore this population of youth in terms of demographics, recidivism, and sentencing types (Halemba et al., 2004; Herz & Ryan, 2008; Ryan et al., 2007), but a continued understanding of this population is needed.

## **Chapter II. Literature Review**

### **Conceptual Framework**

The current study is guided by ecological systems theory (Bronfenbrenner, 1977, 1994) and attachment theory (Bowlby, 1969, 1982, 1991), with particular attention to the influence of trauma on attachment (Friedrich, 2002). These theories take into consideration the environment in which one develops and the interactions with their primary caretakers that are associated with development. Ecological systems theory was chosen as a way to conceptualize how a person develops and is influenced by his/her environmental system. In this study, the specific systemic influences under review are the child welfare and juvenile justice system. Attachment theory will guide the understanding of the child's relationship with his/her caregiver.

#### *Ecological Systems Theory*

In developing the ecological perspective, Bronfenbrenner brought to light the contextual variation in human development, looking at the individual within his/her environment (e.g., culture, class, and setting) (Bronfenbrenner, 1992; Darling, 2007). The ecological perspective views systems as mutually influential and in constant interaction with each other, shaping the context in which the individual experiences life phenomena and acts as a determinant of social functioning (Bronfenbrenner, 1977, 1979). As such, this approach provides a context to better understand the individuals within the environment they exist. By analyzing the systems interactions and the environment within one develops, it is hoped that child development will be more thoroughly understood. Bronfenbrenner coined different types of systems – microsystem,

mesosystem, macrosystem, and exosystem – which are dynamic and “nested” within each other (Bronfenbrenner, 1979).

The microsystem, according to Bronfenbrenner (1977, 1994) is a pattern of activities, social roles, and interpersonal relations that an individual experiences directly. Examples of microsystems include school, foster home, or a sports team; anything that an individual directly partakes and contributes to is part of the microsystem. These interactions within the microsystem continually shape an individual. The interactions that occur on a regular basis within the microsystem are referred to a proximal process and are a driving force in a child’s development (Bronfenbrenner, 1999; Bronfenbrenner & Morris, 1998). A child’s regular interactions with his/her mother, foster parent, or social worker are all examples of proximal processes. These relationships are transactional in nature as they both affect and are affected by one another (Schweiger & O’Brien, 2005). It is at this level where one would analyze how child maltreatment or the home environment influences a child’s development. Researchers have used this theory to better understand a child’s behavior, specifically for understanding risk-taking behaviors (Aronowitz, Rennells, & Todd, 2006; DiClemente, Salazar, & Crosby, 2007; Meade & Ickovics, 2005). When two or more microsystems interact, Bronfenbrenner (1977, 1994) defined these interrelationships as the mesosystem (such school and home, or foster home and biological home). The interactions in one’s environment may influence the interaction within another environment; for example neglectful home lives may negatively influence a child’s school performance (Shumow, Smith, & Smith, 2009).

The theoretical level where multiple settings interact but do not directly affect the individual are referred to as the exosystem (Bronfenbrenner, 1977, 1994). The

environmental interactions with the child that are not regular interactions, but indirectly affect the child, are referred to as distal processes. Distal processes are considered as an approach to better understand the proximal processes. In the context of this study, a distal process could be the interaction between the minority community and both the child welfare and justice systems. The distal processes from the social environment may affect the proximal process (Bronfenbrenner & Morris, 1998); for instance a foster family not willing to provide their home for a juvenile delinquent may ultimately impact the decision-making placing processes of juvenile court judges.

Both the child welfare and juvenile delinquency systems have been viewed as prejudicial in interacting not only with primarily low-income families, but also families of color. Roberts (2003) calls the child welfare system “one of the most segregated institutions in the country” (p.vi). Many studies have illuminated the issue of disproportionate representation of children of color in foster care, particularly for African Americans (e.g., Beeman, Kim, & Bullerdick, 2000; Chipman, Wells, & Johnson, 2002; Ehrle & Geen 2002; Schwartz, 2007). Furthermore, Alexander (2012) hypothesized that the adult judicial system is a mechanism used to further the racial stratification that already exists within this country. The juvenile justice system is not much better, adjudicating more youth of color than White youth each year. Poverty as well can act as a distal process. Living in poverty can be harmful to a child’s physical, socio-emotional, and cognitive wellbeing (Evans, 2004). Compared to children of other racial/ethnic groups, African Americans are the most likely to live in poverty (Strozier & Krisman 2007). Moreover, parents living in impoverished homes are more likely to be nonresponsive and severe in their parenting styles, resulting in greater instability within

the household. Research suggests that the majority of children in the foster care system are from poor families (Evans, 2004; Roberts, 2003). Poor children in the juvenile courts are also less likely to have adequate legal counsel or even to be represented by counsel altogether (Alexander, 2012). The interactions of these systems, although not directly influencing a child, “impinge upon or encompass the immediate settings in which the person is found, and thereby delimit, influence, or even determine what goes on there” (Bronfenbrenner, 1994, p. 515), thus negatively influencing his/her development.

Due to the grand scale of ecological systems and its attempt to explain many aspects of human development, the theory is often referred to as a framework or perspective. Typically, only certain aspects of the theory can be tested one at a time. Although, Bronfenbrenner did not outline how to use all aspects of a theory within research methods, he did emphasize that minimal application of the theory could be used to assess proximal processes (Bean, 2012; Tudge, Mokrova, Hatfield, & Karnik, 2009). This research will focus specifically on the microsystem level or maltreatment and substitute placements outside the biological home, as well as greater system(s) involvement from the child welfare system, specifically home removal, placement in a group home or unrelated foster care, and having many social workers assigned to the case.

### *Trauma and Attachment Theory*

Previous research suggests a connection between trauma and attachment for children; highlighting the fact that repeated traumatic exposure at an early age may lead to insecure attachment patterns (Friedrich, 2002). As will be discussed, insecure attachment formations may negatively influence behavioral development, self-regulation,

and the interpersonal development of a child (Cook, Little, & Akin-Little, 2007). Prior trauma is also correlated to maladaptive outcomes within multiple domains such as behavioral, cognitive, and social (Arsenio, Cooperman, & Lover, 2000; Cicchetti & Toth, 1998; Fergusson, Woodward, & Horwood, 2000). Understanding the immediate and long-term effects of trauma on children is complex. The definitions of trauma range from emotional, physical and sexual abuse, to neglect. These traumatic events have been shown to potentially influence the development of youth, in particular their attachment styles. A better understanding of disruptions in the parent/child caretaker relationship – in terms of documented maltreatment and subsequent removal from home – should help provide an interpretation of the influences in youths' delinquent behaviors.

Pioneered by the work of Bowlby (1969, 1982, 1991), the term attachment refers to the relational context of a child's early care-giving relationship, particularly in times of stress. Developmental bonds and expected or organized behaviors on the part of the caretaker help a child to develop an initial understanding of relationships (Bowlby, 1991). Bowlby (1969, 1982, 1991) suggested that the attachment relationship with the primary caretaker enhances the child's success of survival, based on the caregiver's availability to respond appropriately to the child's distress. A central concept within attachment theory is the idea of a "secure base" (i.e., the caretaker). The attachment developed in relation to the secure base ideally allows a child to explore away from his/her caretaker, knowing that he/she is able to return and receive nurture and emotional warmth (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1988). Attachment theory can be connected with ecological systems theory when examining the family interactions in terms of the microsystem. In ecological systems theory, Bronfenbrenner (1992) refers to the parents

as the “most powerful influence on child development and the persons most sensitive and responsive to their children’s behavior” (p. 218). The attachment between a child and their parent or caregiver will affect his/her attachment style and development.

Previous research suggests a child can develop secure or insecure attachments resulting from the caretaker relationship (Ainsworth et al., 1978). Secure attachment refers to a child who views their caregiver as “safe.” A secure attachment results from a consistent and nurturing caregiver/child relationship. Young children who develop secure attachments view their caretakers as emotionally responsive and available when they encounter a stressful situation (Ainsworth et al., 1978; Main & Solomon, 1990). Securely attached children are able to identify and express their needs, display anger and affection in an appropriate manner, and verbally negotiate disagreements (Ainsworth et al., 1978; Mennen & O’Keefe, 2005).

By contrast children that develop insecure attachments demonstrate a range of emotions when distressed, typically overdependence or hostility towards their caretakers. Children who develop insecure attachments may exhibit aggressive behaviors (Sroufe et al., 2005 ; van IJzendoorn et al., 1992), erratic emotional behaviors (Cicchetti, Rogosch, & Toth, 2006), develop different forms of psychopathologies (Dozier, Stovall-McClough, & Albus, 2008) and have increased feeling of helplessness, failure, betrayal, coercive control of others, anger, and rejection (Lyons-Ruth & Jacobvitz, 2008). Insecure attachments may result from a parent not providing a reliable and nurturing environment for the child, as the caretaker is distant, preoccupied, and generally neglectful (Ainsworth et al., 1978; Crittenden, 1995; Finzi, Ram, Har-Even, Shnit, & Weizman 2001; Main & Solomon, 1990). Children in the foster care system are likely to experience neglectful



parenting, as neglect is the most common reason that children come in to the protective care of child welfare services (U.S. DHHS, 2013).

Child maltreatment creates a negative, disruptive environment, which can prevent a secure attachment from forming, ultimately increasing the risk that the child will adapt in the previous noted maladaptive ways (Cicchetti, 2004; Friedrich, 2002). A study of maltreated children indicated that 90% had insecure attachments (Friedrich, 2002). Trauma or victimization may influence a child's ability to self-regulate and negatively influence their interrelatedness with others. Research on attachment suggests that maltreated children may experience a lifetime of maladaptive interpersonal relationships (Cicchetti & Toth, 1995; Frederick & Goddard, 2008).

Maltreated children who end up within the foster care system may have a higher likelihood of having an insecure form of attachment (Hughes, 2004). The attachment style that is developed at a young age will carry forward influencing a child's affect, cognitions, expectations, and interactions with others (Sroufe & Fleeson, 1986). Family support is one of the main ways children are able to cope and adapt in the wake of victimization (Finkelhor & Kendall-Tackett, 1997). However, without the caregiver's support, the child will be likely unable to make sense of traumatic experiences in a coherent manner. Research on children with PTSD symptomatic behavior indicates that parental support may mitigate the impact of post-traumatic pathology (Cohen, Mannarino, Deblinger, & Berliner, 2009). Prior trauma may have a negative influence on a child's ability to self-regulate his/her emotions and/or the ability to be empathetic to others' emotions (Maughan & Cicchetti 2002). These attachment issues may create long-term trajectories in which these youth have difficulty building and maintain healthy

relationships (Colman & Widom, 2004; Darwish, Esquivel, Houtz, & Alfonso, 2001; Shields & Cicchetti, 2001).

Although attachment styles will not be directly measured in this study, attachment theory was used as a way to conceptualize caretaker relationships with the child in his/her development and as a way to understand the dynamics of child welfare involvement (Ackerman & Dozier, 2005; Bolen, 2000). Research suggests behaviors related to different forms of attachments are theorized to have a psychological base (Bowlby, 1988), be universal (Bolen, 2000; van IJzendoorn & Kroonenberg, 1988), occur intergenerationally (Bolen, 2000; van IJzendoorn, 1995), and are largely stable across time (Sroufe & Fleeson, 1986). Currently, research suggests the need to examine attachment in relation to other known risk factors to predict and better understand future behavior (Belsky & Fearon, 2002; Sroufe, Egeland, & Kreutzer, 1990). For instance, insecure attachment patterns in combination with other risk factors such as poverty may be able to predict behavioral and emotional problems (Sroufe, 2005; Sroufe, Carlson, Levy, & Egeland, 1999). Trauma that influences attachment with the caretaker increases the likelihood of a child having irrational responses of subsequent stressors in his/her life due to the negative association on cognitive, sensory and emotional regulation (van der Kolk, 2003). In using child welfare protective services as a proxy for maltreatment and home removal and type of out-of-home care as proxies for child welfare system involvement, it is hoped that this research will provide more insight into dually involved youth. This insight may help to develop targeted methods in working with these children and making decisions on the child's behalf for positive outcomes.

## **Overview of Child Maltreatment and Delinquency Literature**

Engagement in delinquency and increased likelihood of crossing over between multiple systems may be influenced by a multitude of factors. This section will examine the influence of maltreatment on delinquency, as well as the researched associations of being placed in out-of-home care. The inequitable nature of systems is addressed through the lens of racial disproportionality and gender. Finally, the previous research on dually involved youth will be presented.

### *Maltreatment and Juvenile Delinquency*

Compared to the general population, maltreated youth are associated with greater likelihood of engaging in delinquent behaviors and incarceration (Grogan-Kaylor, Ruffolo, Ortega, & Clark, 2008; Mann & Reynolds, 2006; Widom, 2003). In 2004, a National Institute of Justice (NIJ) study suggested that youth who had been maltreated were 11 times more likely than non-maltreated youth to be arrested and 2.7 times more likely to be arrested as an adult (English, Widom, & Brandford, 2004), suggesting a strong relationship between maltreatment and engagement in delinquent behavior. These findings confirm earlier work in the field by Smith and Thornberry (1995) whose seminal study indicated that childhood maltreatment is significantly correlated to self-reported violent and nonviolent forms of delinquency. Abused youth tend to commit more delinquency offenses, commit their first offense at an earlier age (National Council of Juvenile and Family Court Judges, 2005), and generally engage in delinquent acts (Ryan & Testa, 2005; Thornberry, 2008). As a result these youth are arrested more frequently (Widom & Maxfield, 2001). A study of California based youth suggests that children who live in families that are investigated for physical abuse are twice as likely to be

committed to the juvenile justice system compared to children with no prior family investigations (Jonson-Reid & Barth, 2003). The parent/child relationship acts as a major influence in the developmental outcomes for children; maltreatment in particular has the most deleterious behavioral effects such as general delinquent behavior (e.g., fighting, truancy, suspension from school, running away from home), serious delinquent behavior (e.g., theft, vandalism, serious fighting in which someone was hurt), substance use (e.g., drugs, alcohol) (Hollist, Hughes, & Schaible, 2009), and weakened social bonds (Carson, Sullivan, Cochran, & Lersch, 2009), all similar outcomes suggested within attachment literature for youth with insecure forms of attachment (Colman & Widom, 2004; Shields & Cicchetti, 2001).

Debate exists as to whether physical abuse or neglect is more likely to result in delinquent acts by a child (Grogan-Kaylor et al., 2008; Smith, Ireland, & Thornberry, 2005). A review of trauma literature suggests that physical abuse in later adolescence is the most consistent type of abuse which can be used to predict engagement in violent or person based offenses; however, repeated exposure to multiple forms of abuse along with the severity of abuse significantly increases the likelihood of violent or person based offenses committed by a child (Maas, Herrenkohl, & Sousa, 2008). Delinquent acts appear to be more prevalent among economically poor, urban adolescent males, especially those who experienced multiple forms of maltreatment (Verrecchia, Fetzer, Lemmon, & Austin, 2010). The influence of family relationships and the ecological context are needed to develop an understanding of the relationship between maltreatment and outcomes such as delinquency; only then will a developmental trajectory be able to

be more fully understood (Dannerbeck & Yan, 2011; Crooks, Scott, Wolfe, Chiodo, & Killip, 2007).

A new branch of maltreatment research, coined “complex trauma”, refers to the experience of chronic or repeated exposure to two or more of the following forms of trauma exposure: sexual, physical or emotional abuse, domestic violence, neglect, and school/community violence (Kisiel, Fehrenbach, Small, & Lyons, 2009; National Trauma Traumatic Stress Network, 2012). Approximately 70% of children in the child welfare system meet the criteria for complex trauma (Greeson, Ake, Howard, Briggs, Ko, Pynoos et al., 2011). Complex trauma has been shown to negatively influence the formation of a secure attachment between a child and the caregiver; and as noted, attachment is important because the care-giving relationship produces a sense of safety and stability for a child (Cook, Spinazzola, Lanktree, Blaustein, Sprague, Cloitre et al., 2005). Children who have experienced complex trauma are more susceptible to stress, have difficulty regulating emotions, may be socially isolated and/or disengaged (Cook et al., 2007), and have emotional and behavior difficulties (Prather & Golder, 2009). Youth with histories of complex trauma have an increased risk in developing externalizing problems (e.g., hostility, oppositionality, impulsivity) in childhood (Ford, Elhai, Connor, & Frueh, 2010; Mongillo, Briggs-Gowan, Ford & Carter, 2009) and adolescence (Ford, Hartman, Hawke & Chapman, 2008, Ford, Connor & Hawke, 2009; Ruchkin, Henrich, Jones, Vermeiren, & Schwab-Stone, 2007). These difficulties may be one reason why youth in the juvenile justice system report higher rates of trauma exposure compared to the general population (Dierkhising, Ko, Woods-Jaeger, Briggs, Lee, & Pynoos, 2013; Wolpaw & Ford, 2004). While children are removed from their birth families when imminent danger is present,

trauma may not end when a child is placed in a foster care setting. Results from a study of foster care alumni suggest that nearly one-third of foster care youth were re-traumatized while in foster care (Jackson, O'Brien, & Pecora, 2011). Additionally, the recent 2010 lawsuit against the Department of Children and Families lawsuit by a child advocacy organization (Children's Rights) brought to light that Massachusetts children in foster care were also experiencing abuse in placements as well (Children's Rights, 2013). This further traumatization may continue to negatively influence the child, increasing the risk for negative outcomes.

The cumulative aspect of trauma is now being shown to have negative neurological effects. New research in the field of brain development suggests that abuse and neglect have a negative impact on a child's brain development (De Bellis, 2005; Heide & Solomon, 2004). The first three years of life are a particularly vulnerable period in brain development as environmental abnormalities may negatively influence development, causing permanent effects on brain function and even physical structure (Boyse, 2010; Knickmeyer, Gouttard, Kang, Evans, Wilber, Smith et al., 2008; Shonkoff & Phillips, 2000). However, the brain does not stop developing after these early years; new research suggests adolescent brain development may be a just as critical time period, potentially influencing developmental outcomes into adulthood (Boyse, 2010; Weinberger, Elvegag, & Giedd, 2005).

Important developmental factors aiding healthy brain development include education, attention, and proper support in order for the child to develop knowledge, skills, and confidence (Walters, Zanghi, Ansell, Armstrong, & Sutter 2011). Research suggests that the prefrontal cortex is one of the last areas of the brain to fully develop, an

area of the brain that regulates decision-making, reasoning, judgment, and impulse control (McNamee, 2006). The functioning processes that this specific region controls may play a critical role in a youth's decision to engage in delinquent activities. During adolescence, a child also experiences a shift in dopamine levels, which is linked to feeling pleasure. As such, youth may look to engage in riskier behaviors in order to experience the same levels of pleasures from activities that no longer excite them (Spear, 2010). The recent scientific research on brain development suggests maltreatment may permanently impact the social, psychological, and cognitive development areas of the brain (National Child Traumatic Stress Network, 2003; Smith, 2011). The physiological connections associated with maltreatment are an important addition to the child welfare research literature, as they suggest another level of detriment which maltreatment may cause for children.

### *Out-of-Home Care*

For a portion of children involved with child welfare services, home removal will occur. The placement of children in out-of-home care can act as a separate form of trauma in addition to the traumatic experience of abuse or neglect that may have led to their home removal (Pecora, Kessler, Williams, O'Brien, Downs, English et al., 2005). The removal(s) from a child's primary caretaker is likely to negatively influence a child's ability to form a secure attachment, as suggested to be an important developmental milestone (Sroufe, 1996; Stovall & Dozier 1998). These children face additional stressors including separation from family, friends, and community, in addition to the uncertainty they may experience while in out-of-home care (Pecora et al., 2005). These separations can be viewed as a threat to a child's wellbeing, negatively influencing a child's

adjustment (Kobak, 1999). Children who experience disruption in care giving are at an elevated risk for emotion regulation and social cognitive difficulties (Price & Landsverk, 1998). Multiple placements have also been related to psychopathology issues and externalizing problem behaviors in children (Newton, Litrownik, & Landsverk, 2000; Widom, 1991). Ryan and Testa (2005) report that foster youth who move placements more than one time are four to five times more likely to end up involved in the juvenile justice system. They also noted that foster youth with perceptions of placement instability (belief they would be moved within a year) had higher rates of engaging in delinquency compared to youth with no perceptions of foster care placement mobility within the year (p. 244).

If a child does enter substitute placement outside their birth home, there are different forms of care in which they can be placed. The most typical form of out-of-home care is unrelated foster care. Children can also experience a “child specific” form of foster care, referred to as kinship care, which typically includes placement with a family member or a person known to the family. Finally, the child can be placed in residential care or a group home facility. In a study of over 12,000 children placed in the Illinois foster care system (Koh & Testa, 2011), placement type significantly differed based on age, race, and placement stability. Children placed in kinship care are more likely to be African American and younger. Additionally, youth placed in kinship foster care are more likely to experience placement stability and are less likely to re-enter foster care after family reunification (Koh & Testa, 2011).

Research on out-of-home care placements suggests differences in child outcomes attributed to placement type. Youth in kinship care placements tend to experience more



stability while in out-of-home care (Koh & Testa, 2011; Usher, Randolph, & Gogan 1999; Wulczyn, Kogan, & Harden, 2003) and are less likely to subsequently re-enter foster care after reunification with their birth family (Courtney 1995; Frame, Berrick, & Brodowski 2000). Children in kinship care placements tend to exhibit fewer externalizing behaviors (Cheung, Goodman, Leckie, & Jenkins, 2011; Holtan, Ronning, Handergard, & Sourander, 2005; Lawrence, Carlson, & Egeland, 2006; Rosenthal & Curiel, 2006), which children placed in group homes have been associated with a greater likelihood of engaging in delinquent behaviors (Ryan, Marshall, Herz, & Hernandez, 2008). Finally, recent research of a Florida based sample of 2,800 children suggests children placed in group homes experience higher rates of arrest compared to children placed in therapeutic foster care or inpatient psychiatric facilities (Robst, Armstrong, Dollard, & Rohrer, 2013).

Disrupting the home environment and social ties creates psychological stress for adolescents and diminishes their ability to create strong social/familial connections for support (Hagan, Macmillan, & Wheaton, 1996; Kroger, 1980). These adolescents, who have low levels of social support resources, may be more likely to engage in delinquency (Kort-Butler, 2010). Many foster youth lack positive supports and consistent relationships; these may be exacerbated through frequent moves among foster homes, schools, and communities (Ferrell, 2004). Thus, it is important to develop a better understanding of the influence of out-of-home placement for youth and this study will examine its relationship with delinquency.

### *Dually Involved Youth*

To date, there have been no national studies of dually involved youth. However, in recent years, there has been a move to better understand this population of youth, as it is accepted that maltreated youth are vulnerable to poor outcomes. There are limited studies involving specific groups of dually involved and more broadly crossover youth that provide insightful demographics and background characteristics for youth in specific areas (e.g., Los Angeles see Herz & Ryan, 2008; and Arizona see Halemba et al., 2004). Since 2010, there has been movement towards shared models of system delivery (child welfare and juvenile delinquency) resulting in the work of the Center for Juvenile Justice Reform (CJJR) at Georgetown University and their Crossover Youth Practice Model, which is currently being implemented in approximately 40 jurisdictions (CJJR, 2013).

The temporal order of how youth become involved with both systems can happen in multiple ways. In a study of Los Angeles based dually involved youth, 92% (N=1,052) had formal contact with the child welfare system before becoming known to the juvenile justice system, compared to 8% (N=96) that had at least one arrest before formal involvement with the child welfare system (however, this is limited to formal knowledge of abuse by the child welfare system; maltreatment may have existed for a period of time before the authorities became involved). More than half of the youth (66% or N=762) had been removed from their homes and placed in some form of out-of-home care at the time of their arrest, whereas 34% (N=386) were receiving in-home services at the time of their arrest (Ryan, 2012). The prevalence of youth involved in both systems is apparent. A study of 4,475 juvenile delinquents in Kings County (Seattle), revealed two-thirds of the population had some form of involvement with child protective services. Approximately

59% of youth with one known offense to the juvenile justice system had some history with child welfare services compared to 89% of youth with two or more known delinquency offenses having child welfare service involvement (Halemba & Siegel, 2011). Early identification and systems integration is needed to better assist youth who crossover between both systems.

The recent research on crossover youth does suggest the evidence of certain trends. Dually involved youth tend to commit crimes at a younger age, engage in more serious crimes, are detained more frequently and for longer periods of time, and are more likely to recidivate within the delinquency system (Conger & Ross, 2001, 2009; Halemba et al., 2004; Halemba & Siegel, 2011; Huang, Ryan, & Herz 2012). Research suggests differential treatment of crossover youth within the juvenile delinquency system in particular. Youth in the foster care system are more likely to be detained regardless of their offense history and crime severity compared to youth not currently involved in the child welfare system (Conger & Ross, 2001, 2009).

A New Mexico based cohort of youth involved in child protective services found that 13.9% of youth between the ages of 7 and 14 years had an arrest within a four year time period while involved within child protective services. Youth that were most likely to be arrested were as follows: 10 years and older (20% compared to 5.5% for youth younger than 10 years), males (17.3% compared to 10.9% for females), and had families with greater incidents of child protective services involvement (Johnson, Ereth, & Wagner, 2004). Similar findings emerged from an Arizona based study (Halemba et al., 2004), helping to confirm the connection between maltreatment and externalizing behavioral problems. Although males are more likely to be represented in the juvenile

justice systems, recent studies suggest that female offenders are more likely to be dually involved (Halemba et al., 2004; Ryan et al., 2010).

### *Female Juvenile Delinquents*

Most of the literature on juvenile delinquency is focused on male offenders, as they historically have accounted for the majority of official offenses and commitments (Cauffman, 2008). Chamberlain (2003) notes that “even though experts recognize the juvenile justice, educational, and child welfare systems should be sensitive to gender-related issues, there is far less empirical information on the development of the antisocial process in girls than in boys” (pp. 109–110). However, in recent years, with the rising rates of female juvenile offending, there has been a push to understand the female juvenile delinquent (Sherman, 2005; Zahn, Agnew, Fishbein, Miller, Winn, Dakoff, et al., 2010).

The increase in delinquency rates among females may be the result of policy changes than actual behaviors (Chesney-Lind & Shelden, 2004; Steffensmeier, Schwartz, Zhong, & Ackerman, 2005). Since the 1980s, there have been systematic policy changes such as: “charging up”, which occurs when less serious offenses (e.g., disorderly conduct, harassment, and resisting arrest) are classified as more serious offenses; the increased criminalization of domestic disputes; and the increased focus on punishment for violent acts near a school setting (Cauffman, 2008; Steffensmeier et al., 2005). However, even with these policy changes, it is important to develop an increased understanding of potential gender differences influencing offending.

The recent research on female juvenile delinquents are finding trends such as poor relationships with families, histories of trauma and victimization, unhealthy romantic

relationships (Chesney-Lind & Pasko, 2004), as well as parental incarceration and educational difficulties (Kakar, Friedman, & Peck, 2002). While research suggests that both male and female juvenile delinquents have an increased likelihood of being a part of unstable family households, research is suggesting that females may have a greater sensitivity to the same risk factors (Zahn et al. 2010).

In a study of delinquent females (N=112), incarcerated women (N=34), and staff who work with this population (e.g., probation and detention staff) (N=52) in the Indiana Justice System, Garcia and Lane (2012) indicated the most personally cited influence on behavior, were drug and alcohol related issues (68% for juveniles, 97% for adult females). The focus groups uncovered common trends in the personal lives of the sample such as, prior issues with families (i.e., unstable homes, poor parenting, and parental criminality), domestic violence with partners, and histories of sexual abuse. One staff member expressed, "... they [the girls] are searching for attention that they are not getting at home and they are looking for love in all the wrong places..." (p. 265). The issue of seeking personal connections is an emerging trend within other research on female delinquent behavior.

In a study of 120 incarcerated female juvenile delinquents in southern Maryland, Morton and Leslie (2006) also found the sample expressing a lack of significant interpersonal relationships. The focus groups overwhelming felt the need for connection, in particular looking for connections with boyfriends who may not be the best role models (as they may have been a part of their delinquency). The majority of the sample lacked fathers in their upbringing and lived in mother-headed households. However, even though the majority lived with their mothers, the female participants expressed unhealthy

and emotionally unavailable relationships with their mothers. The issue of self-esteem was also prevalent for committed females, struggling to find their own self-worth, value, and a positive self-identity.

In a study by Ruffolo, Sarri, and Goodkind (2004) of 159 delinquent, diverted and high risk adolescent girls, they found that the most serious female delinquents had higher levels of depression, experience of sexual abuse, poverty, and unstable family lives compared to the diverted and high risk groups. Due to the historic nature of the events the females described prior to engaging in criminal behavior, the authors posit some of their depression could have been prevented with earlier interventions. This study suggests some risk factors may predispose females to behavioral, emotional, and developmental challenges, in particular living in impoverished conditions, experiencing multiple out-of-home placements, and experiencing child maltreatment, especially sexual abuse (Ruffolo et al., 2004).

There is a great need to fill the gap in understanding female juvenile delinquents as they are at higher risk for poor adult outcomes compared to non-delinquent girls. Adult women with past histories of juvenile delinquency are more at risk for substance abuse issues, suicidality, domestic violence, high unemployment, psychiatric issues, poorer educational achievement, and greater reliance on government assistance (Pajer, 1998; Pajer, Stouthamer-Loeber, Gardner, & Loeber, 2006; Pulkkinen & Pitkanen, 1993).

#### *Racial Disproportionality in Child Welfare and Juvenile Justice Systems*

The over representation of minority youth within the child welfare and juvenile justice systems remains a consistent problem. In 2012, minority children (African American, Hispanic, Asian, Alaskan Indian/American Indian, and multi-racial or unable

to determine) accounted for more than 50% of the approximately 400,000 children in foster care (U.S. DHHS, 2013). African-American youth have one of the highest rates of being victims of abuse at 14.2 per 1,000 African American children in the total U.S. population (compared to 8.0 per 1,000 White children in the population) (U.S. DHHS, 2013). This may be the result of the fact that African American families are also more likely to be overrepresented in the investigation of allegations for abuse and maltreatment compared to White children and families (Roberts, 2008), even though their rates of maltreatment is equal to White youth (Swahn et al., 2006). Minority children, specifically African American children, enter the foster care system at disproportionate rates, stay in care longer, and are less likely to be reunified with their birth families or adopted (Hill, 2006; Jones, 2006; Roberts, 2008). Children of color are more likely to be placed in foster care even when controlling for factors such as age, gender, maltreatment reason, and neighborhood poverty (Fluke, Jones-Harden, Jenkins, & Ruehrdanz, 2011; Hayden Foster, 2012; Needell, Brookhart, & Lee, 2003; Roberts, 2008).

Youth who are represented in official delinquent statistics are more likely to be male and Black (Chui, Ryan, & Herz, 2011; Nellis & Richardson, 2010). Black children are the most likely to be arrested and incarcerated for delinquent behavior (Rosich, 2007). In 2010, 42 percent of juvenile males in residential placement facilities were Black (Sickmund, Sladky, Kang, & Puzanchera, 2011). Currently, this issue of disproportionate representation continues into adulthood. According to Mauer and King (2004), one out of every 21 adult Black men is incarcerated on any given day, this rate is higher for Black men in their late twenties (one in eight), and one in every three (32%) Black males born today are likely to go to prison during their lifetime. Black youth are

more likely to be arrested and processed by juvenile courts compared to the general population; they make up 25% of juvenile arrests and 32% of juvenile court cases but only represent 15% of the child population (Hsia, Bridges, & McHale, 2004). The impact this has on the Black community and life chances for Black men in particular is prophetic (Alexander, 2012; Jones, 2006; Roberts, 2008).

Disproportionality within the juvenile delinquency systems has been historically referred to as DMC. The original acronym stood for ‘disproportionate minority confinement’, referring to the disproportionate amount of minority youth who are committed by the courts and placed in secure lockup compared to their representation within the greater population (Leiber, 2002). DMC was recognized as a social issue in the 1988 amendments to the Juvenile Justice and Delinquency Prevention Act of 1974 (Hsia et al., 2004) and in 1992 was included as a core requirement to address (Leiber, 2002). The 1992 amendment provided states incentives to reduce disproportional confinement of all government defined minority groups (Pope, Lovell, & Hsia, 2002). However, 25 years later, the issue remains as states continue to struggle with how to solve this concern (Cabaniss et al., 2007). As more research emerges on this topic, a shift has been made for DMC to stand for ‘disproportionate minority contact’ as minority youth are overly represented at each stage of the judicial process, from arrest, to detainment, as well as commitment (Cabaniss et al., 2007).

The correlation between race, maltreatment, and delinquency leading to arrest, is another area of study. Widom, Czaja, Wilson, Allwood and Chauhan (2013) investigated the association between race and the likelihood of arrest on neglected children. Black and Hispanic neglected children were more likely to be arrested (3.5 times more likely as a



juvenile) compared to White neglected children; however self-reports indicated that White neglected children equally engaged in violent delinquent behaviors but were not arrested (or caught). A study of Nebraska juvenile offenders found that minority offenders were over represented at all stages of the juvenile justice process. However, although race played a significant role, the influence of age at time of offense, offense severity, and prior record had more of an association with processing and outcomes of the youth (Herz, 2009). The differences in juvenile justice involvement may be the result of several factors: institutional racism leading to the greater number of referrals to juvenile rehabilitation or correctional systems (Bishop & Frasier, 1998; Edelman, 2008); minority youth not receiving the needed or adequate mental health services (Mauer & King, 2004; Rawal, Romansky, Jenuwine, & Lyons, 2004); African Americans are more likely to live in areas of concentrated poverty, which face overall greater social disadvantages (Hsia et al., 2004; Mauer & King, 2004; Pope & Snyder, 2003); or due to defacto racism, non-White youths receive harsher consequences (Everett, Chipungu, & Leashore, 2004; Lieber & Fox, 2005; Roberts, 2003; Rosich, 2007).

The inadvertent discrimination that Black youth in particular face is striking for modern day. Bridges and Steen (1998) suggest that juvenile court workers may attribute different reasons as to the influence for why a youth commits an offense based on the race of the child. For example, juvenile court workers may attribute a Black youth's offense to be the result of their own behavior and lack of control, therefore placing the onus on the youth. However, the same worker may view a White youth's offense to be the result of the fact they live in an impoverished neighborhood, putting the burden of blame on the environment or factors outside the youth's control. Graham and Lowery

(2004) found similar race driven prejudices in their study of police officers. In the study police officers were prompted with race sensitive adjectives to describe a youth and offense. The officers viewed Black delinquents as needing harsher punishments, attributed greater likelihood of guilt, and felt they would be more likely to recidivate.

The previous studies suggest the unconscious attitudes, often referred to as “indirect race effects” (Nellis, 2005) of system officials’ opinions about minority youth. The combination of legal (e.g., crime type, prior record) and extralegal factors (e.g., gender, age), as well as racial biases account for the differences youth experience in the juvenile justice system. As research suggests, race appears to have a direct relationship in the decision making in combination with these other factors (Bishop, 2005; Engen, Steen, & Bridges, 2002; Leiber & Fox, 2005; Pope et al., 2002). Racism or inadvertent racism is an issue that is hard to change through policy and programs, but in understanding its presence can guide how to combat these issues and differences. Researchers are now focusing on the how differences in both processing and offending influences minority overrepresentation (Piquero, 2008).

### **Research Questions and Hypotheses**

This study is an exploratory examination of dually involved youth in the care or custody of the Massachusetts Department of Youth Services (DYS), who also have histories of involvement with the Massachusetts Department of Children and Families (DCF). This research involved a retrospective analysis of youth committed to DYS, some of whom have histories with DCF. Committed youth are a vulnerable population as the courts found them culpable for the offenses with which they are charged and are adjudicated to the juvenile justice system. Studies have found juvenile delinquents to

have lower levels of academic achievement, be more likely to recidivate, and have decreased rates of involvement in the adult labor market (AECF, 2011; Hjalmarsson, 2008; Keely, 2006; Western & Beckett, 1999).

The current study assesses differences in offense severity, gender, and racial compositions between “dually involved” (youth with an official history with DCF) and “non-dually involved youth” (youth with no official history with DCF). This research on committed youth will help fill a gap in current knowledge about the relationship between child welfare involvement and maltreatment histories for DYS youth. In order to provide a greater understanding of this youth population within the Commonwealth of Massachusetts, preliminary analyses will provide descriptive information of all committed youth, as well differences between dually and non-dually involved committed youth. This study will also provide insight into the Hispanic population, as they are typically under-researched as census and administrative data have not always captured their ethnicity youth correctly (Piquero, 2008). Specific research questions and hypotheses are as follows:

1. What factors are associated with offense severity?
  - a. H<sub>1</sub>: Greater child welfare involvement (total unique count of social workers, home removal, and out-of-home placement) will relate to greater severity of offense for dually involved youth.
  - b. H<sub>2</sub>: Dually involved youth in child welfare care as a result of maltreatment will commit more severe offenses.

2. What demographic factors are related to the likelihood of dual involvement?
  - a. H<sub>3</sub>: Minority juvenile delinquents, specifically African American youth, will be more likely to be dually involved compared to White juvenile delinquents.
  - b. H<sub>4</sub>: Females juvenile delinquents will be more likely to be dually involved compared to male juvenile delinquents.

## **Chapter III. Method**

### **Data Sources**

Administrative data from the Massachusetts Department of Children and Families (DCF) and Department of Youth Services (DYS) were utilized to address the research questions in this study. These two agencies currently do not actively share data. Both DYS and DCF use separate data collection systems to collect information on their respective clients. Three Institutional Review Board (IRB) approvals were obtained for the data acquisition used in this study: first, from Boston College, then from two separate review boards at DCF and DYS. Additionally, DYS executive board was consulted for approval due to the large scale of data requested. The IRB proposal indicated the desire to conduct an exploratory study on dually involved youth with histories in both DCF and DYS, which would provide insight to the population of youth that use both DCF and DYS services.

Variables of particular interest were related to trauma and placement histories, as well as offense histories. The final data received contained a random sample of DYS youth (sampling procedures are described in depth below), due to the large quantity of DYS clients and in order to expedite the acquisition of the data. Due to confidentiality issues, variable matching between DYS and DCF occurred prior to the researcher's acquisition of data. DCF and DYS involved youth were matched by name and date of birth. For the purposes of this study, DYS created the file for the matching process. The file was composed of youth committed to DYS between 2000 and 2012. Committed youth have been found responsible for an offense and are adjudicated to DYS. These youth may be committed to a secure lock-up facility, a residential community based

location, or returned to their home. However, the youth's placements post-adjudication were not made available for the current research. The DYS data included a range of variables associated with offense that led to the youths' commitment. Examples of some of the variables include offense type, age at time of commitment, grid level or most serious offense (offense severity), zip code of the DYS client, DYS region, and DYS court.

The DYS file was put into an Excel spreadsheet and then provided to the Department of Children and Families to conduct the matching process with their clientele. DCF provided a range of variables to give an overview of the youths' history with initial involvement with DCF. Examples of variables include abuse allegations, reason for home removal, placement type, permanency goals, and reason for case closure with DCF. DCF has a validation program to confirm the accuracy of their matches, but as all data are entered manually by case workers on their clients, there is the possibility that names or other data may have been entered incorrectly, impacting data reliability and validity to an unknown degree. DCF removed the youths' names from the sample and replaced them with identification numbers to protect the youths' identities. DCF removed the day of the date of birth, but not month or year, due to confidentiality issues. These de-identified matched data were then provided to the researcher at Boston College. The researcher then cleaned the data, through recoding data variables to confirm variables were entered correctly (e.g., "Af. American", "African American", and "2" were all ways data were entered to capture that a child was African American). The age of youth was determined through date of birth and date of DCF involvement. All variables were re-checked for consistency, to affirm that no errors occurred during the recoding process.

### **Sampling Design**

At the request of the Department of Youth Services, due to the large sample of clients over the 12-year time span, a systematic sample was derived from their database. The early end of the time span, beginning in year 2000, was chosen due to the fact that this was the time period when DYS initiated complete online client data collection procedures. The systematic sample captured every fifth youth committed between the years 2000 and 2012. The researcher confirmed with DYS that youth were not ordered in a specific manner on the system (e.g., by race, age, etc.) in order to verify that no youth would potentially be systematically excluded from this selection process. However, this sample may not be a unique count of youth, as youth with more than one commitment may be captured through this sampling procedure.

Data for DYS youth committed between 2000 and 2012 were matched to the DCF system. Any non-matched clients remained in the sample for comparison of dually and non-dually involved youth. The final sample for this analysis resulted in 10,326 committed youth (not dually involved: N=2,830, dually involved: N=7,496). The researcher removed from the sample any youth who did not reside in the Commonwealth of Massachusetts at the time of their commitment, as they would not have had an equal likelihood of past involvement with the Department of Children and Families, which is the focus of the current study.

### **Missing Data Issues**

There are minimal missing data in the current dataset. The variables of focus used in this study indicated small percentages of missing data (Gender: N=1, <1%; Offense Severity: N=57, <1%, Age at DCF Case Opening: N=92, <1%; DCF Case Type: N=83,

<1%). Due to this minimal amount, listwise deletion was utilized to handle missing cases during analyses (Bennett, 2001).

### **Measures**

In order to answer the stated research questions and to test the hypotheses the following measures were used:

#### *Dually Involved Youth*

Dually involved youth (i.e., youth with involvement in both DCF and DYS) were measured through a dummy variable (not dually involved=0, dually involved=1).

#### *Maltreatment*

The maltreatment of children in the sample was classified by the DCF case type. The Department of Children and Families can become involved in a family's life through different avenues: 1) protective, 2) voluntarily, or 3) court referral (a process in this study referred to as a 'child in need of services' (CHINS) and as of 2013 was changed to 'child requiring assistance' or CRA). A protective case occurs when an allegation of abuse, neglect, or another form of maltreatment is substantiated requiring DCF protective services. DCF will either work with the family to stabilize the situation or remove the child from the home, placing the child in external care. While these data do not provide clarity on the specific maltreatment reason resulting from the protective case file, since maltreatment is required for protective services, this case category type will be used as a proxy of maltreatment. Families can also request voluntarily services with DCF. Families who receive voluntarily services are determined by DCF not to be abusive or neglectful, but need assistance with their child via behavior or mental health services. Finally, the court can refer a child or family to DCF. The most common court referral is filing a



CHINS, which occurs when a juvenile judge refers a child to DCF due to constant disobeying of parent or guardian, missing school regularly, not adhering to the rules of school, or being a runaway (Mass.gov, 2012). The DCF administrative data also has an “other” case category label. This label provides no official definition and due to the historic nature (prior to online data collection) of many of these cases may not provide an adequate measure of any particular construct. However, one reason for entering “other” in case type may be when an allegation was filed but not substantiated.

#### *Child Welfare System Involvement*

Specific variables have been chosen to act as proxies to measure child welfare system involvement. Due to the fact that the concept of systems involvement is not directly observable, three proxies were used: the number of total unique social workers assigned to a case, if home removal occurred, and type of out-of-home placement. Number of unique social workers was chosen due to the theoretical bases of attachment and ecological systems (Bowlby, 1969; Bronfenbrenner, 1994). Social workers may act as attachment figures for the youth as they are committed to the youth’s care (Ainsworth, 1989; Kobak, Rosenthal & Serwik, 2005). Caseworkers are not only responsible for the youth’s safety and wellbeing but also permanent outcomes with their family (Goerge, 1994; Strolin-Goltzman, Kollar, & Trinkle, 2010). This research posits that a greater number of social workers associated with one’s case would decrease the likelihood of a youth connecting with the social worker as an adult figure. Additionally, multiple caseworkers may create further systems involvement, as these families may stay in the child welfare system longer. Prior research suggests that multiple case workers is related to increased length of stay in out-of-home care, decreased likelihood of family

reunification (Flower, McDonald, & Sumski, 2005; Pardeck, 1985; Ryan, Garnier, Zyphur, & Zhai, 2006), and decreased levels of trust and feelings of stability for foster youth (Strolin-Goltzman et al., 2010).

Home removal acts as a second proxy for systems involvement, as DCF is playing a more active role with the family. Instead of solely providing stabilization services to the family, they are intervening even more through home removal. If home removal does occur, the type of out-of-home placement will act as a third proxy of DCF involvement. Out-of-home placement can occur through kinship care (with a family member or person known to the child), unrelated foster care, or residential care. A child placed with kin or within their known social network will be viewed as less involvement than youth placed outside of their known social network, through unrelated foster care or a group home. The quality of the care a youth receives while in out-of-home care has been shown to influence their outcomes (Ackerman, Kogos, Youngstrom, Stroff, & Izard, 1999; Sinclair & Wilson, 2003). The ability to form new attachments is one such avenue of studying outcomes. The majority of the research done on youth's ability to form an attachment with foster or adoptive parents suggest that children placed under the age of 1 year are more apt to form attachments with their new caregivers (Stovall & Dozier, 2000; Stovall-McClough & Dozier, 2004), compared to older youth. However, researchers suggest that the multitude of early adversities experienced by older youth may be the driving force influencing the ability to form new attachments, yet more research is needed on this claim for older foster youth (Dozier, Stovall, Albus, & Bates, 2001). Additionally, research on long term outcomes and the relationship between attachment with surrogate caretakers are still needed (Dozier, Lindhiem, & Ackerman, 2005; Dozier & Rutter,

2008). However, as noted, kinship care has been associated with fewer behavioral problems among youth in out-of-home care (Cheung et al. 2011; Holtan et al., 2005; Rosenthal & Curiel, 2006), whereas group homes have been associated with engagement in delinquent behaviors (Robst et al., 2013; Ryan et al., 2008), both behaviors shown to be associated with insecure attachments (Sroufe, 2005).

While not a proxy for child welfare involvement, it is important to note the reason youth are removed from their homes, as not all home removals are due to maltreatment. The Department of Children and Families uses the Adoption and Foster Care Analysis and Reporting System (AFCARS) (U.S. DHHS, 2012) criteria for home removal episodes in their data collection process. These reasons are collected nationally and used to report national statistics of state child welfare systems. Within AFCARS, there are fifteen reasons a home removal may occur (see Appendix A for description of home removal reasons). Physical abuse refers to an injury through physical maltreatment of a child by the person responsible for their care and welfare. Sexual abuse refers to the abuse or sexual exploitation on a child by the individual responsible for their care or welfare. Neglect indicates the failure to provide the necessary means to a child (e.g., food, clothing, shelter, medical care). A child may also be removed due to the chronic nature of a parent or caretaker's abuse of drugs or alcohol. A child may also experience home removal due to their own alcohol or drug abuse, this reason for removal may include infants who are born addicted to substances. A child may be removed from their legal guardian or birth family as a result of their disability (i.e., mental retardation, emotional disturbance, specific learning disability, hearing, sight, or speech impairment, physical disability, or other diagnosed handicap) or behavioral problems (i.e., running

away from home, adversely affected socialization, learning, and moral development at school, home, and/or the community). The death or incarceration of a parent or parents may also lead to a child's removal from the home. The physical or emotional illness of a parent or caretaker may lead to the inability to care for a child, leading to a subsequent home removal episode. If a child is abandoned by his/her caretaker without information of the caretaker's whereabouts or if they will return, (whether left alone or with others) the child may be officially removed from the home. A caretaker may also voluntarily surrender or relinquish a child to the Department of Children and Families through a formal letter assigning their physical and legal custody to the state for the purpose of having the child adopted by another family. Finally, inadequate housing is a reason for home removal (e.g., substandard, overcrowded, unsafe housing conditions, and homelessness) (U.S. DHHS, 2012). All reasons for home removal occur from the child's birth family or legal guardian. Consistent with other studies which utilized the AFCARS reasons for home removal (Lin, 2012), these 15 categories were collapsed into 11 categories, such that child drug and alcohol abuse were coded as child substance abuse, parent drug and alcohol abuse were coded as parent substance abuse, and "other" included jail of parent, death of parent, and inadequate housing. The "other" variables consistently have low figures nationally, and initial frequencies tests on the dataset suggest this finding is true for Massachusetts as well. The cause for home removal episode (HRE) reason will provide clarity as to most frequent reasons for home removal specific to committed dually involved youth.

### *Offense Severity*

When a youth is committed to DYS, he/she may have committed more than one offense leading to their commitment. However, DYS captures the youth's most serious offenses (MSO) and converts it to match their grid level system, which provides a numerical coding to the level of offense severity. These offense levels are as follows from one to six: 1 represents the least serious offense (i.e., trespassing), 2 (e.g., breaking and entering or carrying a firearm without a permit), 3 (e.g., unarmed robbery or bomb threat) 4 (e.g., attempted rape or armed robbery) 5 (e.g., carjacking or rape) or 6 representing the most serious offense (i.e., rape of child under the age of 16, home invasion, and murder in the second degree). (See Appendix B for list of grid level offenses).

### **Analysis**

Data were analyzed using the sample of 10,326 committed youth using SPSS (Version 21.0) software. Preliminary analyses consisted of frequency counts, bivariate analyses, and means and standard deviations, on demographic information of the total committed youth sample as well as the sub-sample of dually and non-dually involved youth. Due to the fact that the day of birth was removed, ages were calculated based on the month and year of birth, thus all ages are not exact. Bivariate analyses examined the relationship between gender, dual involvement and offense type. Additional bivariate analyses examined the relationship between race, dual involvement and offense type. These analyses allow inferences to be made as to whether gender or race is associated with the likelihood of youths' involvement with the specified variables of interest. T-tests were conducted to compare the relationships between race and gender to offense severity.

Hierarchical regression models were constructed. In conducting hierarchical regressions, the relative association of predictors can be determined through the examination of how a predictor variable alters the dependent variable, while controlling for the effects of the other covariates (Cohen, Cohen, West, & Aiken, 2002; Petrocelli, 2003). Hierarchical regressions call for the variables to be entered in a temporal fashion (Cohen et al., 2002), and as such, variables were entered in terms of theoretical occurrence.

The first model used a hierarchical linear regression to examine the relationship between child welfare system involvement (measured by the proxies of number of social workers, home removal occurrence, and type of out-of-home placement) on the severity of the offense. The second model used a hierarchical linear regression to examine the association between case types (protective cases are used as a proxy for maltreatment) and severity of offense. In the first two models, White youth were used as the comparison group for race categories, and the second model used protective cases as the comparison group. Both models control for gender, race, and age of commitment. Finally, the third model constructed was a hierarchical logistic regression, due to the binary nature of the outcome variable, to examine the association between race and gender and the likelihood of dual involvement, while controlling for age at time of commitment.

Following a temporal order of analysis, as suggested by Cohen and colleagues (2002), the hierarchical steps for the models were constructed. In the construction of Model 1, Step 1 entered the demographic variables (gender and race). Step 2 included the predictor variables for child welfare system involvement (age of DCF involvement, whether home removal occurred, type of out-of-home placement, and number of social

workers). Finally, Step 3 included the DYS offense variable: age of commitment. Model 2 used the same logic and variables for Steps 1 and 3; however, Step 2 included the predictor variables of maltreatment (measured by case type). The final model, Model 3 used the following three steps: Step 1 included the control variable (age of DYS commitment), Step 2 added the first predictor variable, gender, and finally, Step 3 included the predictor dummy variables for race.

Interpretation of the unstandardized beta was used to describe the results of the hierarchical linear regression (Petrocelli, 2003). More specifically the unstandardized beta describes the predicted change in the dependent variable (severity of offense) given a one unit change in the predictor variable. In order to understand the relative contribution each variable, interpretation of  $\Delta R^2$ , as well as change in the  $F$  and  $p$  values will be interpreted for each step.

## Chapter IV. Findings

### Sample Characteristics

Descriptive statistics including means, standard deviations, and bivariate analyses were conducted in order to examine the characteristics of the sample. These preliminary analyses indicated that dually involved youth comprised 72.6% (N=7,496) of the total sample (N=10,327). Findings from all preliminary analyses are provided in Table 1.

Table 1. *Descriptive Statistics on Committed Youth and Bivariate Analyses on Dually and Non-Dually Involved Youth*

	<b>Committed Youth</b> N=10,326	<b>Dually Involved</b> N=7,496	<b>Non-Dually Involved</b> N=2,830
<b>Dually Involved</b>	72.6%		
<b>Gender***</b>			
Male	84.3%	59.2%	25.1%
Female	15.7%	13.4%	2.3%
<b>Race</b>			
Caucasian	42.0%	41.9%	42.1%
Hispanic	25.5%	25.1%	23.0%
African American	25.0%	24.4%	26.5%
Other	5.8%	6.0%	5.5%
Asian	2.7%	2.6%	2.9%
<b>Type of Offense***</b>			
Person	38.6%	39.5%	37.0%
Property	26.5%	27.3%	24.2%
Public Order	11.3%	11.8%	9.7%
Drugs	10.5%	9.7%	12.6%
Motor Vehicle	6.6%	6.0%	8.2%
Weapons	6.4%	5.7%	8.3%
<b>Severity Level of Offense***</b>			
1	7.5%	7.6%	7.4%
2	39.6%	41.1%	36.7%
3	34.2%	34.3%	34.4%
4	11.5%	11.0%	13.1%
5	4.6%	4.0%	6.4%
6	2.0%	2.0%	1.9%
<b>Age M(SD)***</b>	15.87 (1.06)	15.79(1.07)	16.09(1.01)

\*\*\*  $p < .001$



Results suggest that even though the majority of dually involved committed youth were male (84.3%), female juvenile delinquents were significantly associated with dual involvement ( $\chi^2(1)=158.68, p<.001$ ). The participants ranged in age at the time of commitment from 11 to 20 ( $M=15.87, SD= 1.06$ ) years old. However, dually involved youth were significantly more likely to be committed at a younger age ( $t(10,099)=12.61, p<.001$ ). The racial makeup of the sample varied, but the majority of committed youth were Caucasian (42%,  $N=4,335$ ), followed by Hispanic (25.5%,  $N=2,532$ ) and African American (25%,  $N=2,579$ ). Race was not significantly associated with dual involvement. The majority of offenses were person based (38.6%,  $N=3,986$ ), followed by property based (26.5%,  $N=2,721$ ). Property based offenses include burglary, larceny/theft, motor vehicle theft, and arson (OJJDP, 2014), whereas person based offenses involve the infliction or threat of bodily harm (DYS, 2013) (see Appendix C for definitions of all offense types).

The bivariate analyses suggest there were significant differences in the types of offenses dually and non-dually involved youth commit ( $\chi^2(5)=72.74, p<.001$ ), specifically, dually involved youth were more likely to commit person, property, and public order offenses. Finally, initial analyses suggested that the majority of grid level offenses were not severe. Specifically, the most common type of offenses were level 2 (39.6%,  $N=4,094$ ), followed by level 3 (34.2%,  $N=3,527$ ). Again, bivariate analyses indicated that significant differences existed between dually and non-dually youth and offense severity ( $t(10,268)=4.96, p<.001$ ). Specially, dually involved youth were more likely to commit level 2 offenses, whereas non-dually involved youth were more likely to commit level 5 offenses.

In order to better understand why dually involved youth came into care, analyses were also conducted on this sample subset population (N=7,496). While youth may come in and out of DCF care multiple times, these data capture committed youth's first DCF experience. All preliminary analyses are provided in Table 2.

Table 2. *Sample Characteristics of DCF Involvement for Dually Involved Youth*

	<b>Committed Youth N=7,496 M(SD)</b>
<b>Age at DCF Involvement M(SD)</b>	8.02 (5.26)
<b>Type of DCF Case</b>	(Missing: 1.1%)
Protective	66.1%
Voluntary	8.2%
CHINS	10.5%
Other	14%
<b>Removed from Home</b>	40.4%
<b>Age at HRE M(SD)</b>	13.47 (2.74)
<b>Reason for HRE (N=3,033)</b>	
Child Behavior	67.5%
Caretaker Inability	27.1%
Neglect	8.0%
Substance Abuse (P)	9.6%
Substance Abuse (C)	5.1%
Physical Abuse	6.5%
Other (Jail, Death, Housing)	3.8%
Abandonment	3.5%
Voluntary Surrender	2.1%
Sexual Abuse	.9%
Child Disability	.7%
<b>Placement Type (N=3,033)</b>	(Missing=5.5%)
Unrelated Foster Care	48.2%
Kinship Care	8.6%
Group Home	37.8%
<b>Number of Social Workers M(SD)</b>	4.53 (3.40)
0	2.1%
1	14.4%
2-4	43.9%
5-9	30.1%
10+	9.5%
<b>End Goal</b>	(Missing= 7.7%)
Permanency Through Stabilization of the Family	80.3%
Permanency Through Reunification of the Family	10.9%
<b>Reason for HRE Closure (N=3,033)</b>	
Child Returned Home	69.6%
Custody to Other Agency	16.9%
Child Aged Out	7.4%
Guardianship	2.1%

Committed youth tended to be approximately eight years old at the age of their first case opening with DCF ( $M=8.02$  ( $SD=5.26$ )). The majority of case types for these youth were protective cases (66.1%), suggesting some form of maltreatment existed. However these data were unable to provide the specific reason as to why the child and their families were brought into DCF care. Initial analyses suggest that a less than half of dually involved committed youth were removed from their homes (40.4%) but were removed due to behavioral issues (67.5%), not maltreatment. The dually involved youth were, on average, 13.4 years old when they experienced first home removal.

The DCF case goal for the majority of youth in the sample was permanency through stabilization of the family (80.3%). A family is considered stabilized by the Department of Children and Families, when the family meets the necessary criteria established by DCF to be considered stable enough to meet the wellbeing of the child (DCF, 2013a). The second most prevalent permanency goal was permanency through reunification of the family (10.9%). This reason suggests that the child has already been removed from the home. Permanency through family reunification is accomplished when the Department of Children and Families deems the family situation as ready to reunify the child with the family. A service plan is created and ideally kept up to date, depicting the reasons as to why the child has come into substitute care and what needs to happen in order for the substitute care and DCF services to be no longer be necessary (DCF, 2013a).

#### *Correlations of Control Variables*

The correlation matrix presented in Table 3 includes all control variables used in the current study. An examination of bivariate correlations provides further information

on the relationships between variables prior to further analyses. The current matrix indicates gender was positively correlated with the number of social workers ( $r=.07$ ,  $p<.001$ ), and if a home removal occurred (HRE) ( $r=.19$ ,  $p<.001$ ). Gender was negatively correlated with placement type ( $r=-.09$ ,  $p<.001$ ), and DYS age of commitment ( $r=-.12$ ,  $p<.001$ ). Gender was not correlated with age of initial DCF involvement and DCF case type. Race was positively correlated with age of DCF initial involvement ( $r=.10$ ,  $p<.001$ ), placement type ( $r=.12$ ,  $p<.001$ ), DCF case type ( $r=.05$ ,  $p<.001$ ), if home removal occurred ( $r=.05$ ,  $p<.001$ ), and DYS age of commitment ( $r=.12$ ,  $p<.001$ ). Race was negatively correlated with number of social workers ( $r=-.06$ ,  $p<.001$ ).

Table 3. *Correlations Among All Control Variables*

Variable <sup>a</sup>	1	2	3	4	5	6	7
Gender	.-						
Race	.03**	--					
DCF Age	.01	.10***	-				
SW	.07***	-.06***	-.50***	-			
Placement	-.09***	.12***	.21***	-.18***	-		
Case Type	.01	.05***	.32***	-.26***	.13***	-	
HRE	.19***	.05***	.09***	.14***	.30***	.02	-
DYS Age	-.12***	.08***	.12***	-.09***	.02	-.01	-.09***

Note.  $N = 10,327$ .

<sup>a</sup>Gender (0=Male, 1=Female), Race (0=Non-White, 1=White) Placement (1=Unrelated Foster Case, 2=Kinship Care, 3=Residential Care), HRE (0=No, 1=Yes), Case Type (1=Protective, 2=Voluntary, 3=CHINS, 4=Other)

\*\*\* $p<.001$ .

Research Question 1: What factors are associated with offense severity?

*H<sub>1</sub>: Greater child welfare involvement (total unique count of social workers, home removal, and out-of-home placement) will relate to greater severity of offense for dually involved youth.*

A hierarchical linear regression was constructed to determine whether demographic variables (gender and race), age of DCF involvement and child welfare involvement proxy variables (home removal occurrence, type of out-of-home placement, and number of social workers), and age of DYS commitment are associated with offense severity. As initial bivariate analyses indicated (refer to Table 1) dually involved and non-dually involved youth commit significantly differently types of offenses ( $p < .001$ ), leading to different offense severities ( $p < .001$ ). Results of the regression are presented in Table 4.

The results of Step 1 indicated the variance accounted for ( $R^2$ ) with the first two predictors (gender and race) equaled .061 ( $\Delta R^2 = .06$ ) which was significantly different from zero, ( $\Delta F(5, 7,186) = 93.15, p < .001$ ). All control variables were significant: gender ( $p < .001$ ), Black ( $p < .001$ ), Hispanic ( $p < .001$ ), Asian ( $p < .01$ ), and “Other” race ( $p < .001$ ). Step 2 added in age of DCF involvement and predictor variables regarding DCF involvement. These additions indicated a significant association with offense severity,  $\Delta R^2 = .068$ , which was statistically significant increase in variance accounted for over the Step 1 model ( $\Delta F(5, 7,181) = 10.23, p < .001$ ). The final step, Step 3, added in age of DYS commitment and results indicated a significant association with offense severity. The change in variance accounted for  $\Delta R^2 = .005$ , which was a statistically significant increase in variance compared to the variability accounted for by the previous predictor variables entered in Step 2, ( $\Delta F(1, 7,180) = 36.28, p < .001$ ). Controlling for variables entered in Step 1 and 2, every 1 unit increase in age of DYS commitment corresponded to a .06 increase in offense severity ( $b = .06, SE = .01, p < .001$ ). The final model resulted in  $R^2 = .071, F(11, 7,180) = 50.79, p < .001$ .

Table 4. *H<sub>1</sub>: Hierarchical Linear Regressions on Offense Severity*

	$\Delta R^2$	$\Delta F$	$R^2_{total}$	$R^2_{adjusted}$	$F_{total}$
<b>Model 1</b>	.06	93.15***	.06	(5, 7186) .06	93.15***
<b>Model 2</b>	.01	10.23***	.07	.07	51.99***
<b>Model 3</b>	.01	36.28***	.07	.07	50.79***

\*\*\*  $p < .001$

Multicollinearity was not an issue in these regression models as all variance inflation factor (VIF) statistics were less than 4.0 (Abu-Bader, 2006). In this model, the ethnicity variables, gender, age of initial DCF involvement, home removal occurrence, placement in kinship care, and age of DYS commitment were found to be significantly associated with offense severity. Dually involved committed females were more likely to commit less severe offenses compared to their male counterparts ( $b = -.48$ ,  $SE = .03$ ,  $t = -15.49$ ). All minority races (African American, Hispanic, Asian, and Other) had a unique association with offense severity. Compared to White committed youth, minority youth were more likely to commit more severe offenses (Black, Hispanic, Other:  $p < .001$ ; Asian:  $p < .01$ ). The b coefficients for Step 3 of the regression did support the stated hypotheses. The b coefficients related to child welfare involvement that were significant (age of DCF involvement:  $b = -.01$ ,  $SE = .003$ ,  $t = -3.01$ ; and HRE: ( $b = -.14$ ,  $SE = .03$ ,  $t = -4.69$ ), indicated a negative relationship between child welfare involvement and offense severity. This negative direction of these relationships were opposite from what was hypothesized. All findings will be fully examined in the discussion section.

Table 5. Hierarchical Linear Regression: Offense Severity by Demographics and Child Welfare Involvement

	Model 1			Model 2			Model 3		
	b	(SE)	T	b	(SE)	t	b	(SE)	t
<b>(Constant)</b>	2.64***	.02	136.82	2.73***	.04	69.55	1.65***	.18	9.05
<b>Gender</b>	-.54***	.03	-17.49	-.51***	.03	-16.28	-.48***	.03	-15.49
<b>Black</b>	.37***	.03	12.19	.34***	.03	11.14	.35***	.03	11.30
<b>Hispanic</b>	.16***	.03	5.32	.15***	.03	4.93	.16***	.03	5.39
<b>Asian</b>	.21**	.08	2.77	.22**	.08	2.91	.24**	.08	3.12
<b>Other</b>	.23***	.05	4.50	.22***	.05	4.28	.23***	.05	4.47
<b>Age at DCF Involvement</b>				-.01**	.003	-2.45	-.01**	.003	-3.01
<b>HRE</b>				-.15***	.03	-4.91	-.14***	.03	-4.69
<b>Kinship</b>				-.05	.05	-.98	-.06	.05	-1.06
<b>Residential</b>				.01	.04	.16	.01	.04	.14
<b>Num. of SW</b>				.01	.02	1.47	-.01	.004	1.59
<b>Age at Commitment</b>							.07***	.07	6.02

Note.  $N = 7,192$ .

Gender (0=Male, 1=Female), Black (0=No (White), 1=Yes), Hispanic (0=No (White), 1=Yes), Asian (0=No (White), 1=Yes), Other (0=No (White), 1=Yes), HRE (0=No, 1=Yes), Kinship (0=No (Unrelated FC), 1=Yes), Residential (0=No (Unrelated FC), 1=Yes).



*H<sub>2</sub>: Dually involved youth in child welfare care as a result of maltreatment will commit more severe offenses*

A hierarchical linear regression was constructed to answer the second hypothesis as to whether demographic variables (gender and race), age of DCF involvement and maltreatment proxy (DCF protective care), and age of DYS commitment are associated with offense severity. Results of the regression are presented in Table 6.

The results of Step 1 indicated the variance accounted for ( $R^2$ ) with the first two predictors (gender and race) equaled .061 ( $\Delta R^2=.06$ ), which was significantly different from zero, ( $\Delta F(5, 7,187)=93.12, p<.001$ ). All control variables were significant: gender ( $p<.001$ ), Black ( $p<.001$ ), Hispanic ( $p<.001$ ), Asian ( $p<.01$ ), and “Other” race ( $p<.001$ ). Step 2 added in age of DCF involvement the predictor variables regarding maltreatment. These additions indicated a significant association with offense severity,  $\Delta R^2=.005$ , which was statistically significant increase in variance accounted for over the Step 1 model ( $\Delta F(4, 7,183)=8.70, p<.001$ ). The final step, Step 3, included age of DYS commitment. Results indicated a significant association with offense severity. The change in variance accounted for  $\Delta R^2=.005$ , which was a statistically significant increase in variance compared to the variability accounted for by the previous predictor variables entered in Step 2, ( $\Delta F(1, 7,182)=37.21, p<.001$ ). The final Model resulted in a  $R^2=.07$ ,  $F(11, 7182)=54.21, p<.001$ . Controlling for variables entered in Step 1 and 2, every 1 unit increase in age of DYS commitment corresponded to a .07 increase in offense severity ( $b=.07, SE=.01, p<.001$ ).

Table 6. *H<sub>2</sub>: Hierarchical Linear Regressions on Offense Severity*

	$\Delta R^2$	$\Delta F$	$R^2_{\text{total}}$	$R^2_{\text{adjusted}}$	$F_{\text{total}}$
<b>Model 1</b>	.06	93.12***	.06	.06	93.12***
<b>Model 2</b>	.01	8.7***	.07	.06	55.82***
<b>Model 3</b>	.01	37.21***	.07	.07	54.21***

\*\*\*  $p < .001$

Similar to the findings in hypothesis 1, females were significantly more likely to have committed less severe offenses compared to their male counterparts ( $p < .001$ ). All minority races (Hispanic, Black, Asian, and Other) were significantly more likely to commit a more serious offense compared to their White counterparts ( $p < .001$ ; Asian:  $p < .01$ ), and older committed youth were more likely to commit a more severe offense ( $p < .001$ ). Age of DCF resulted in less serious offenses ( $p < .001$ ). The b coefficients for Step 3 of the regression provide partial support for the stated hypotheses. The b coefficients related to the maltreatment proxy of DCF case type suggest that CHINS cases were significantly different from protective cases ( $b = -.15$ ,  $SE = .04$ ,  $t = -3.58$ ,  $p < .001$ ) resulting in less severe offense. All findings will be fully examined in the discussion section.

Table 7. Hierarchical Linear Regression: Offense Severity by Demographics and DCF Case Type

	Model 1			Model 2			Model 3		
	b	(SE)	T	b	(SE)	t	b	(SE)	t
<b>(Constant)</b>	2.64***	.02	136.67	2.72***	.03	96.78	1.63***	.18	9.03
<b>Gender</b>	-.54***	.03	-17.50	-.53***	.03	-17.50	-.51***	.03	-16.59
<b>Black</b>	.37***	.03	12.18	.35***	.03	11.50	.36***	.03	11.65
<b>Hispanic</b>	.16***	.03	5.40	.16***	.03	5.34	.17***	.03	5.80
<b>Asian</b>	.21**	.08	2.76	.22**	.08	2.83	.23**	.08	3.05
<b>Other</b>	.23***	.05	4.49	.22***	.05	4.46	.24***	.05	4.64
<b>Age at DCF Involvement</b>				-.01*	.003	-2.23	-.01**	.003	-2.95
<b>Voluntary</b>				.03	.04	.63	.03	.04	.58
<b>CHINS</b>				-.16***	.04	-3.80	-.15***	.04	-3.58
<b>Other</b>				-.07	.04	-1.83	-.06	.04	-1.58
<b>Age at Commitment</b>							.07***	.01	6.10

Note.  $N = 7,193$ .

Gender (0=Male, 1=Female), Black (0=No (White), 1=Yes), Hispanic (0=No (White), 1=Yes), Asian (0=No (White), 1=Yes), Other (0=No (White), 1=Yes), Voluntary (0=No (Protective), 1=Yes), CHINS (0=No (Protective), 1=Yes), Other (0=No (Protective), 1=Yes).

\*\*  $p < .01$ , \*\*\*  $p < .001$

Research Question 2: What demographic factors are related to the likelihood of dual involvement?

*H<sub>3</sub>: Minority juvenile delinquents, specifically African American youth, will be more likely to be dually involved compared to White juvenile delinquents.*

*H<sub>4</sub>: Females juvenile delinquents will be more likely to be dually involved compared to male juvenile delinquents.*

The preliminary analyses (Table 1) provide an initial understanding of the racial makeup of committed youth, dually involved, and non-dually involved youth, suggesting that similar trends exist in racial make-up. However, to provide additional context, these figures were compared to breakdown of racial groups of youth within Massachusetts to assess if disproportionally exists. Massachusetts population statistics suggest that White youth are underrepresented in the juvenile delinquency system (42% vs. 67%), whereas minority youth are overrepresented in the juvenile delinquency compared to their representation within the state: Hispanic youth (25.5% vs. 16%); Black youth (25.5% vs. 8%); Asian youth (6% vs. 2.7%); “Other” youth (5.8% vs. 3%) (AECF, 2013). This finding is common within the juvenile delinquency literature regarding disproportionate minority contact as well (Piquero, 2008).

While the chi-square statistics did not indicate significant racial differences between dually and non-dually involved youth (refer to Table 1), due to the findings from the ample literature on disproportionality (Hsia et al., 2004; Widom et al., 2013), and significant relationships between race and DCF and DYS involvement found in the correlation matrix (refer to Table 3), the researcher chose to further examine a potential relationship.

The preliminary analyses (Table 1) also provided an initial understanding as to gender differences that may exist in the dually involved population. Additionally, the bivariate correlation matrix indicated significant gender differences with both DCF and DYS involvement (refer to Table 3). In order to examine the demographic influences, in particular race and gender, on dual involvement, a hierarchical logistic regression was constructed. This regression assessed if race and/or gender was significantly associated with the likelihood of dual involvement (1=dually involved, 0=non-dually involved).

In constructing the model, multicollinearity was assessed by examining the standard errors for the b coefficients. Large standard errors indicate collinearity exist among the independent variables (Hosmer & Lemeshow, 2000). With the use of reference variables, results suggest that multicollinearity is an issue not present in this analysis (refer to Table 8).

The first block, in the constructed model, added in the control variable, age of DYS commitment. This block indicated that age of commitment was able to increase the prediction of dual involvement ( $\chi^2=161.53$ ,  $df=1$ ,  $p<.001$ ). Additionally, a one unit increase of age of this sample is associated with a 24% reduction in the likelihood of dual involvement (O.R.=.76).

The second block added in the first of the two predictor variables, gender. This block indicated that gender, while controlling for age of DYS commitment, was able to increase the prediction of dual involvement (Step:  $\chi^2=140.06$ ,  $df=1$ ,  $p<.001$ ; Model:  $\chi^2=301.59$ ,  $df=2$ ,  $p<.001$ ). The results suggest dual involvement is 2.29 times more likely for females (O.R.=2.29). These results confirm the stated hypothesis that gender, specifically being female, influences the likelihood of dual involvement.

Finally, the third block, which added in the second of the two predictor variables, race (Black, Hispanic, Asian, and Other) did not increase the explanatory power of dual involvement. These results suggest that while controlling for gender and age of commitment, knowing the race of the youth will not increase the predictive ability of dual involvement. These results do not confirm the stated hypothesis that being a minority race, specifically African American, increases the likelihood of dual involvement. Results are presented in Table 8.

Table 8. *H<sub>3</sub>: Hierarchical Logistic Regressions on Dual Involvement*

	Model 1			Model 2			Model 3		
	B	S.E.	O.R.	B	S.E.	O.R.	B	S.E.	O.R.
<b>Age At Commit.</b>	-.28***	.02	.76	-.25***	.02	.78	-.25***	.02	.78
<b>Gender</b>				.83***	.08	2.29	.83***	.08	2.30
<b>Black</b>							-.08	.06	.93
<b>Hispanic</b>							.08	.06	1.08
<b>Asian</b>							-.07	.14	.93
<b>Other</b>							.04	.10	1.04

\*\*\*  $p < .001$

As population data suggest (AECF, 2013) White youth are underrepresented in the juvenile delinquency population, and Black and Hispanic youth are overrepresented in the juvenile delinquency population compared to their population representations in Massachusetts. Additionally, DCF data suggest that minority youth are overrepresented in the child welfare system as well, compared to their respective population's representation (White: 44% vs. 67%, Hispanic: 26% vs. 16%, Black: 14% vs. 8%, Asian: 2% vs. 2.7%, Other: 15% vs. 3%) (DCF, 2013b). However, the hierarchical logistic model was not able to capture such disparities and suggested that race does not explain likelihood of dual involvement. The data may have been inflated by youth that experienced multiple DYS commitments. The study's sampling strategy was not able to eliminate those youth who were committed to DYS more than once. This potential

inflation may be one potential explanation for the lack of variance in examining the influence of race on the likelihood of dual involvement. Regardless, these findings warrant further analysis as statewide population statistics indicate that racial disproportionality exists.

## **Chapter V: Discussion**

### **Introduction**

This study provided an assessment of dual involvement and differences between dually involved and non-dually involved youth in Massachusetts. The primary finding of this research is the significant proportion of dually involved youth as almost three quarters of the 10,326 sample had histories with child welfare services. That finding indicates that three out of every four children that DYS commits have been involved with DCF at a certain point. This finding is supportive of the need to conduct more research to fill the gap in knowledge of this population of youth (Herz et al., 2012; Herz et al., 2010; Ryan & Testa, 2005). Moreover, this also supports recent efforts by the Department of Youth Services and the Department of Children and Families to understand this population and better direct services aimed at them. As such, future efforts aimed at prevention and rehabilitation with committed youth and their families may need to involve a collaboration or knowledge of the child's multiple systems involvement.

### **Child Welfare System Involvement**

The current research focused on the influence of child welfare involvement on delinquent youth. The results did not fully confirm the hypothesis connecting the relationship between DCF involvement and greater offense severity, as youth that experienced a home removal and youth who were younger at DCF initial involvement, committed less serious offenses. While more research is needed on these findings, it may allude to the idea that child protective services exist for that very reason, to protect children. These cases may represent instances where DCF did its job well by intervening in the family for the child's safety. One study of physiological responses to children in



foster care indicated that home removal predicted better hypothalamo-pituitary-adrenal (HPA) regulation, which is related to stress levels, in the brain for neglected children. This finding suggests the biological advantages of intervening and removing children from a neglectful environment (Bernard, Butzin-Dozier, Rittenhouse, & Dozier, 2010).

However, the majority of child welfare literature alludes to the negative influence of home removal on a child. Chui and colleagues (2011) found that youth in out-of-home care were 3.5 times more likely to commit delinquent acts than youth who remain at home. However, debate within the research community exists as to whether it is the prior trauma leading to the out-of-home placement or the type of out-of-home placement that influences delinquent behavior in children (Chui et al. 2011; Dozier et al., 2001; Ryan & Testa, 2005). Out-of-home care may increase a child's feeling of instability increasing his/her vulnerability and poor outcomes (Jones Harden, 2004; Pecora et al., 2005). Research specific to attachment formations suggests that for youth placed in out-of-home care, a committed caregiver may be able to provide a sense of security to the child. This sense of security may positively influence the child's sense of wellbeing (Dozier & Lindhiem, 2006; Dozier & Rutter, 2008), thus decreasing likelihood of externalizing behaviors. The timing of DCF involvement and home removal needs to be further explored. By contextualizing age and home removal with type of abuse will provide greater context which may help to bring fuller clarity to the current findings.

The current findings also confirm previous research on the "crime curve." The crime curve suggests that delinquency peaks in the middle of adolescence (Hirschi & Gottfredson, 1983) and level of previous offending can predict future offending patterns (Overbeek, Vollegergh, Meeus, Engels, & Luijpers, 2001). The significance of age on

offense severity and likelihood of dual involvement reiterates the importance of prevention programs. Targeting younger adolescents may help to prevent or curb more serious delinquency in the future. However, research should build on these findings while controlling for mental health issues, environmental factors, and different forms of abuse, as they may provide additional insight and context as to the influences of offense severity.

### **Maltreatment**

Maltreatment was another focus of the current study. Working within the limits of the administrative data provided, youth with a history of protective services acted as a proxy for maltreatment. Child welfare cases that are deemed ‘protective’ infer that some form of maltreatment occurred on a child (however, these data did not specify type of maltreatment). The results moderately support the claim that youth with histories of maltreatment will be at greater risk of committing more severe offenses. The findings indicate that youth involved with DCF due to CHINS reasons are more likely to commit less serious offenses compared to protective cases. This finding is interesting for two reasons. CHINS referrals are made for children with known behavioral problems, they are likely to be frequently truant from school, be disruptive in home, school, or the community. However, even though these youth have known behavioral issues, they are correlated with less serious “criminal” offenses in DYS. The more serious offenses are committed by youth who have had protective care with DCF, supporting the plethora of prior research that links maltreatment to delinquency (e.g., Cernkovich, Lanctot, & Giordano, 2008; Egeland, Yates, Appleyard, & Van Dulmen, 2002; Jonson-Reid & Barth, 2000; Stewart, Livingston, & Dennison, 2008; Widom, Schuck, & White, 2006).

These findings also support previous research using attachment theory, suggesting that youth who have been maltreated may exhibit behavioral difficulties common to youth that develop insecure attachment patterns (Cicchetti & Toth, 1998; Cook et al., 2007; Friedrich, 2002). The potential difficulty with emotion regulation and difficulty relating to others that maltreated children may experience (Maughan & Cicchetti, 2002) could potentially influence their ability to perceive how their actions will affect others (Whitted, Delavega, & Lennon-Dearing, 2013). This lack of self-awareness may impede their ability to adequately grasp the severity and consequences of their actions (Whitted et al., 2013), leading to increased delinquent behaviors. This research was unique within the current delinquency and crossover youth literature, as it assessed differences in severity of offenses by child welfare services case type.

It should be noted that while the DCF case category deemed “other” (compared to protective, voluntary, or CHINS) was not significant when correlated with offense severity, these cases represented 14% of the sample. This large percentage is due to the historical nature of the data. Data collected since 1998 have been more specific in defining case categories, and many of these youth in this sample had case involvement prior to 1998. As of 2012 DCF only categorized 1% of the children and families in care as “other” type case categories (DCF, 2013b). Future research should aim to clarify these data categorized as “other” to illuminate if the case were protective, voluntary, or CHINS, which may influence the findings suggested in this study. This was beyond the capabilities of the current dataset.

## **Female Delinquency**

The current research confirms the recent trends indicating girls are becoming increasingly visible in the juvenile delinquency system (Snyder & Sickmund, 2006; Zahn, Hawkins, Chiancone, & Whitworth, 2008). Although the majority of committed youth are males, this research indicated females with involvement in child welfare services are more likely to be dually involved, confirming prior research on dually involved youth in other jurisdictions (Halembe & Siegel, 2011; Herz & Ryan, 2008). The research also confirms prior research suggesting that females commit less serious offenses compared to their male counterparts (Snyder & Sickmund, 2006). Even though females are not committing the most serious offenses, some researchers suggest female juvenile delinquents are more likely to be dealing with more serious mental health problems or issues stemming from victimization (Zahn et al., 2010), which contributes to their aggressive behavior (Cauffman, Feldman, Watherman, & Steiner, 1998; Moffitt, Caspi, Rutter, & Silva, 2001). Previous literature suggest that female juvenile delinquents struggle with significant mental health issues (Teplin, Abram, McClelland, Dulcan, & Mericle, 2002; Ruffolo et al., 2004), higher than the male juvenile delinquency population (Cauffman, 2004), and at a rate two to three times higher than the general population (Lexcen & Redding, 2000). Recent research suggests that depression may be a risk factor for delinquency and aggressive behavior for females, more so than for males (Harachi, Fleming, White, Ensminger, Abbott, Catalano et al., 2006; Postlethwait, Barth, & Guo, 2010). While mental health was beyond the scope of the current study, prior child welfare involvement for females may be an important component to girls' delinquency (Jonson-Reid & Barth, 2000).

The deleterious influence of maltreatment is not new to child welfare literature, however understanding the nuances between genders needs to be better understood (Bright & Jonson-Reid, 2008). While the type of abuse that youth experienced was not able to be captured in these data, prior research suggests that the type of abuse that girls face may differ from boys (i.e., sexual abuse or rape) (Cauffman, 2008; Hennessey, Ford, Mahoney, Ko, & Siegfried, 2004; Snyder, 2000), influencing the likelihood of delinquent behavior, in particular violent behavior (Smith, Leve, & Chamberlain, 2006). Female juvenile delinquents are not only more likely to have experienced childhood abuse but the connection of poverty, intra-family violence, familial incarceration, and school-related problems have been shown to be common threads for delinquent females (American and National Bar Association, 2001; Kakar et al., 2002). Research on special populations of abuse victims and more thorough gender differences should be examined in future studies. Additionally, the interaction between gender and race should also be analyzed in order to capture delinquency differences among females by racial grouping. In order to provide the necessary services and programs for delinquent females, the context and specific histories within the child welfare system is needed as these girls appear to be especially vulnerable.

### **Racial Disproportionality**

This study also explored racial differences among dually involved youth. An unexpected finding in the current research was the lack of significance between minority youth and dual involvement. However, the Massachusetts population statistics clearly show that minority disproportionality exists in both the child welfare and juvenile justice agencies. Nationally, disproportionality is prevalent in the child welfare system (Fluke et

al., 2011; Roberts, 2003; Wulczyn, 2008) and juvenile justice system (Alexander, 2012; Piquero, 2008). In 2012, the population of Black youth in the juvenile justice system was approximately three times higher and Hispanic youth were approximately 1.5 times higher than their representation in the Commonwealth of Massachusetts. Potential reasons for disproportionality may be the result of racial prejudice, immigration issues (Dettlaff & Earner, 2010), language barriers (Ayon, 2009), and lack of culturally competent resources (Dettlaff & Cardoso, 2010). All these factors may play a role, but more research is needed in order to draw appropriate conclusions. Future research should assess regional as well as neighborhood differences, as community based factors may play a role in this finding.

The current research provides new information on disproportionate minority contact (DMC), related to offense severity between White and non-White youth (Piquero, 2008). This research indicated that non-White youth are likely to be committed for more severe offenses compared to White youth. Understanding all components of differential offending are still unclear, yet it is a trend seen in many jurisdictions (Pope et al., 2002; Pope & Snyder, 2003). Researchers do not solely suggest that minority youth are inherently more violent than White youth, leading to their overrepresentation in juvenile justice systems (Pope et al., 2002; Pope & Snyder, 2003). One line of argument suggests that structural factors (i.e., disproportionately live in areas of underemployment, poverty, and family dysfunction) influence of criminal behavior for minority youth (e.g., Anderson, 1999; McCord, 1997; Pope & Snyder, 2003). A study of racial and ethnic disparities in violence of young adults in Chicago, found that Black and Latino young adults had significantly greater odds of committing violent acts compared to White youth

(85% and 75% respectively). The authors indicated that much of the variance was explained by structural factors, such as parental marital status, immigration generation, reading ability, and neighborhood social context (Sampson, Morenoff, & Raudenbush, 2005). Using NSCAW data, Barth, Wildfire, and Green (2006) suggested that differences associated with geographic location and children's mental health correlated with child welfare involvement. These findings suggest that children living in urban poverty are more likely to be involved with child welfare services (Barth et al., 2006). Racial segregation may negatively impact families' exposure to risk factors (violence and poverty) and access to protective factors (e.g., jobs, community centers, adequate housing) (Sampson & Wilson, 1995). Alexander (2012) states, "confined to ghetto areas and lacking political power, the Black poor are convenient targets" (p.124).

Economic discrimination is another argument for the overrepresentation of minority youth involved in the juvenile justice system (Snyder & Sickmund, 2006). Youth from impoverished families may lack the resources necessary to get legal counsel to avoid systems involvement (Snyder & Sickmund, 2006) or parents to pay for private mental health facilities to avoid commitment. As noted, White youth and Black youth are viewed differently in terms of the culpability of engagement of delinquent acts (Bridges & Steen, 1998; Edelman, 2008; Everett et al., 2004; Graham & Lowery, 2004). Once a youth is involved in the juvenile justice system, it is likely to create a cycle of problems including: harsher sentencing (Snyder & Sickmund, 2006), and reduced educational, housing, and employment options (Cahn et al., 2006). When the majority of people in a minority community face these issues it creates an even deeper racial divide (Cahn, 2006).

The influence of race (Bishop, 2005; Engen et al., 2002; Leiber & Fox, 2005; Pope et al., 2002) and the societal factors which contribute to minority youth committing more serious offenses needs to be established. Without knowing the context, the delinquent act itself illuminates little about the youth and the factors that may have led up to that offense (Beyer, 2011). Pope and Snyder (2003) suggest it is the context of the offense that plays a more significant role, compared to race alone (e.g., number of victims, race of victims, weapon used), in determining if a youth is arrested in the first place. While DMC is pervasive within the criminal justice system, future studies need to incorporate neighborhood level factors to determine the racial make-up and socioeconomic conditions of the community (McCord, Widom, & Crowell, 2001). It is through better understanding the context of offenses as well of the context of the individual committing the offense that researchers may be able to parse out the environmental influences, as posed in ecological systems theory (Bronfenbrenner, 1994) leading to differential offending (Piquero & Brame, 2008).

The current research adds to the literature on child welfare and juvenile delinquency systems involvement. Currently, the literature assesses the rate of recidivism of juvenile delinquency and the connection to maltreatment (e.g., Calley, 2012; Yampolskaya, Armstrong, & McNeish, 2011), but it lacks research examining the connection between child welfare involvement and differential offense severity. As suggested in previous research, for youth that are involved in multiple systems, there is a lack of agency integration, leading to competing demands on the families and children and potentially ineffective planning and service delivery (Aarons, Brown, Garland, & Hough, 2004). There is a need for institutional and federal policy change, which will be



discussed in depth below, in order to best meet the needs and safety of children and families impacted by multiple systems.

### **Limitations**

The limitations of the study are primarily related to those associated with the use of administrative and cross-sectional data. State agency staff input the variables when they are assigned to the case and work with the family, thus the data are of unknown reliability and validity. The greatest amount of missing data occurred in grid level for committed youth and reason for DCF case closure for dually involved youth. The researcher went through each missing grid level case and compared it to the offense type to see if manually inputting of grid levels was possible. Manual imputation of cases was possible in some instances based on actual offense listed. However, this was not possible for all cases. Additionally, missing data related to reason for DCF case closure may be a result of the fact that the youth are in the custody of the Commonwealth, and thus have not ended their tenure with the Department of Children and Families. These administrative data also lacked family based variables. Issues of family make-up and socioeconomic status were not captured. This information could have provided a fuller picture beyond race and gender for dually involved youth. Finally, these data only represent dually involved youth in one state and not the filling the need for a national profile.

This study also fails to capture mental health issues. Discussions with DCF during the IRB process informed the researcher that mental health variables collected in the DCF system were not reliable, and DYS does not collect information on mental health. In order to have received this information, a separate IRB request would had to be filed with

Department of Mental Health and Mass Health (for youth receiving publically funded insurance), and their files would need to be matched to the DCF and DYS files. Due to time constraints and the lengthy IRB process, the researcher decided against submitting additional IRB requests and removing the mental health aspect from this research.

However, it is important to note that previous studies suggest that as many as 70% of youth involved in the juvenile justice system have at least one diagnosable mental health disorder (Shufelt & Coccozza 2006; Teplin et al. 2002; Wasserman, McReynolds, Lucas, Fisher, & Santos. 2002). Seventy-nine percent of youth with a mental health diagnoses met criteria for two or more diagnoses (Shufelt & Coccozza 2006). These studies suggest while studying dually involved youth, it is important to address the connection of mental health statuses and services youth receive (Child Welfare Information Gateway 2008; Whitted et al., 2013). Future research should look at the connections between mental health diagnoses and any medications the youth may be taking for mental health conditions in regards to DYS and DCF involvement, potentially as a moderator for offense type or severity.

Additionally, these data were not able to assess recidivism rates of youth in the juvenile justice system. Recidivism is a particularly important issue because it suggests the influence of neglect and child welfare involvement on behavioral outcomes. The issue of recidivism appears strongly correlated with dual involvement status (Huang et al., 2012). Prior research suggests dually involved youth are more likely to recidivate compared to youth with no involvement in the child welfare system (Halemba et al., 2004; Morris & Freundlich, 2004; Ryan et al., 2007). A study of Los Angeles based youth with prior histories in the child welfare system were more likely to recidivate

(56%) compared to non-dually involved juvenile delinquents (Huang et al., 2012). Cusick and colleagues (2009) studied 13,500 Illinois based youth exiting correctional facilities between 1996 and 2003 with known histories of cross systems involvement and found dually involved youth were more likely to recidivate within 18 months of release (51% compared to 42% respectively). Additionally, of these exits, 65% had been involved with the child welfare system prior to juvenile justice commitment, suggesting a deeper systems penetration and higher likelihood of cross systems involvement. Finally, a study involving dually involved youth in Kings County (Seattle) indicated that dually involved youth were much more likely to recidivate (70%) compared to non-child welfare involved youth (34%) within two years of release (Halemba & Siegel, 2011). Other factors that may influence the likelihood of recidivism among this population of youth include the age at the time of arrest, truancy, substance use or abuse (Herz et al., 2010), and prior court involvement for child welfare related cases (Halemba et al., 2004). The long-term nature of criminal offences is not only maladaptive for the youth but costly for the counties who continue to try, detain, and commit these youth multiple times.

The final limitation of the study was the inability to compare DCF youth that did not have DYS involvement. Due to IRB constraints and lengthy coordinating with state agencies over the acquisition of data, this type of information was not able to be procured. Future research should assess the differences in child welfare history between youth with all DCF histories and those with and without DYS involvement. Child welfare case files would allow for longitudinal analysis and an in-depth assessment of youth within the child welfare system. This type of analysis would provide an understanding of the trajectory towards juvenile delinquency, a topical area missing from the current

child welfare and juvenile delinquency literature. This type of information would help to inform researchers and practitioners if specific types of trauma or other factors influence the likelihood of dual involvement, something that this dataset could not assess. It would also allow for a longitudinal analysis of the differential trajectory of youth by gender and races. Finally, the voices of dually involved youth are missing. As such, qualitative studies are needed for greater understanding of the perceptions and experiences of dually involved youth. This type of information will add to developing a depth of understanding as to the influence of trauma and systems involvement for dually involved youth.

### **Policy Implications**

Despite these limitations, these findings have important policy implications. Similar to many social problems, the reasons a family becomes involved with child welfare services and why a child becomes involved with the juvenile justice system are multifaceted and complicated. As such, there cannot be a “one size fits all” solution. Currently, our systems appear to not be meeting the best needs of all children. To this point, Cahn (2006) notes:

It is not so much the criminality of the behavior that brings juveniles into the justice system, but the lack of viable alternatives and diversion programs for children with severe [problems] expelled from school, and children whose families cannot provide adequate care. Incarceration of youth becomes the default response to any deviant behavior with which the justice system and other youth serving systems are unable to cope (p. 2).

The findings in this study relate to the aims of current federal policies. However, while existing policies aim to reduce the number of children in care and the number of youthful offenders, more action is still needed.

### *Racial Disparities*

The findings from this study reiterate the importance of decreasing disproportionality in both the child welfare and juvenile delinquency systems. One of the many aims of the Juvenile Justice and Delinquency Prevention Act of 1974 is to decrease rates of disproportionality or more specifically disproportionate minority contact (DMC); however as the numbers indicate, this policy has not yet succeeded. According to the mandates Juvenile Justice and Delinquency Prevention Act, juvenile justice departments are required to identify, assess, intervene, evaluate, and monitor DMC in a continuous cycle in order to better understand the unique causes of DMC in a specific region or jurisdiction (OJJDP, 2012). If a state finds that DMC exists, the agency must assess potential causes, by examining arrest, diversion, adjudication, and court disposition records for differential trends. At a minimum this assessment should examine at least three counties where DMC is greatest. Assessments should lead directly into specific interventions and programs to reduce DMC and increase data tracking (Leiber, 2004, p. 4; OJJDP, 2012). While these assessments will provide clarity on trends, it is time to build on evidence-based practices and follow through on the goal of reducing the rate of minority youth in care. Continued focus on these policy requirements is needed to remind juvenile justice officials of their responsibility in decreasing DMC and improving the outcomes of all youth.

While different regions or areas may have specific issues related to DMC, research suggests there are trends in current programs that appear to be the most influential for addressing the problem. The Sentencing Project (2010), a criminal justice research and advocacy organization, suggests some of the major issues that need to be

addressed are the following: institutionalized racism (Bishop & Frazier, 1998), the influence of socioeconomic differences (Hawkins, Laub, Lauritsen, & Cothorn, 2000); lack of culturally competent risk assessment instruments (Chapman, Desai, Falzer, & Borum, 2006); differential access to legal counsel (Leiber & Fox, 2005; Majd & Puritz, 2009); and legislative policies which greatly impact minority youth (Fabella, Slapney Richardson, Light, & Christie, 2007; Richardson, McCrory, Rembert, McCormick, & Graf, 2008). In a review of strategies used to reduce DMC rates, the following strategies were the most effective:

- a) Decision-point mapping and data review;
- b) cultural competency training;
- c) adding more community based prevention and intervention programs as detention alternatives;
- d) removing decision making subjectivity through standardized screenings and protocols;
- e) reducing barriers to family involvement;
- f) and cultivating state leadership to legislate system level change (Cabaniss et al., 2007, p.395).

Today, there is still a struggle on how to solve disproportionality and provide equitable services to all youth (Cabaniss et al., 2007; Hsia et al., 2004). These evidence based strategies are proving effective, but replications are needed.

The importance of cultural competence training is an example of an effective policy, which is easy and cost effective to implement. Cultural competence is defined as a "set of congruent behaviors, attitudes, and policies that come together in a system, agency, or among professionals and enable that system, agency, or those professionals to work effectively in cross-cultural situations" (Hartley & Petrucci, 2004, p. 171). Cultural competency training includes educating all professionals connected to the justice and child welfare process on the impact of cultural and historical differences among different racial groups (Kastner, 2007). Effective training will help people become self-aware of personal biases and racial attitudes, as well as become more keenly aware of the negative

impact of racism and be able to effectively communicate in a cross-cultural manner (Kastner, 2007). Institutional racism continues to grow and remains pervasive throughout the system not through overt discrimination, but rather through unintentional actions or unconscious biases. It is through building cultural competences we can hope to chip away at this systemic issue (Kastner, 2007).

The issue of disproportionate minority contact (DMC) needs to be made a top priority and focus among juvenile justice departments. The Department of Youth Services is currently in a partnership with the Annie E. Casey Juvenile Detention Alternative Initiative (JDAI). JDAI has proved to be one of the nation's more effective models of juvenile justice reform initiatives (AECF, 2014) and has been noted as the "...single greatest reform ever undertaken in juvenile justice programming" (Mendel, 2009, p. 5). The intentions of JDAI are to reduce the number of youth in juvenile detention centers and increase the number of youth placed in community-based and family focused alternatives (AECF, 2014). Prior research suggests that committing children to detention facilities may not always be in their or society's best interests as secure facilities may be: dangerous, ineffective at reducing future crime, unnecessary for non-violent crimes, "obsolete" as treatment models are more effective than punishment models, expensive for taxpayers, and inadequate at meeting the multifaceted needs of the children in their care (AECF, 2012; Mendel, 2011). Since 1998, JDAI has developed more than 100 sites nationwide and has been able reduce commitments to state youth correction facilities by 34%, and the amount of daily detained juveniles by 65% (AECF, 2012). In terms of disproportionality, by 2007, JDAI sites began to see a systematic decrease in minority youth detentions compared to before JDAI implementation, whereas

jurisdictions without JDAI involvement continued to see rising rates of minority youth detentions (Mendel, 2009). JDAI's focus demonstrates that juvenile delinquency jurisdictions can respond to delinquent behavior through effective, fair, safe, and more cost effective means (AECF, 2012).

Since 2007, Massachusetts has developed six JDAI sites in a variety of counties across the state. In a recent report, the counties with JDAI involvement are seeing the benefits through the focused reduction of “unnecessary and harmful use of secure detention for low-risk juveniles” (Heffernan, 2014, p.1). With a focus on “data-driven partnerships between the court, juvenile justice agencies and other community stakeholders” (Heffernan, 2014, p.1), JDAI in Massachusetts is making positive headway. Since its implementation in 2007, juvenile detentions have decreased by 54% statewide. There has also been a 36% decrease in grid level 1 and 2 offenses and a 75% decrease in grid level 3-6 offenses. Additionally, DYS has seen a decrease among Black and Hispanic detained youth, however, proportionally this decrease is not as great as the decrease for detained Caucasian youth (JDAI, 2013). With the positive accomplishments of JDAI both nationally and locally in Massachusetts, JDAI continues to aim to serve children in the least restrictive settings, incorporate and empower families, address racial and gender disparities, have data-driven reforms focused on the jurisdiction, and ensure that confined youth are confined in safe and healthy environments (AECF, 2012). Research also suggest that taxpayers are more willing to invest in rehabilitative services for juvenile delinquents compared to increased punitive commitments, a finding that should provide a greater incentive to policymakers to make statewide or federal changes



in how to handle juvenile justice policy reforms (Nagin, Piquero, Scott, & Steinberg, 2006).

The strategies to decrease disproportionality in the child welfare system are similar to those presented for the juvenile justice system. Jones (2006), on behalf of the Casey-Center for the Study of Social Policy (CSSP), suggests the following key strategies have worked in pilot programs across the country in helping to address child welfare disproportionality: make reducing racial inequities a priority within the agency, collect valid data to understand the problem as well as track progress, conduct evaluations to learn from all efforts taken, improve delivery services and know where service gaps and resources are weak, and partner with the communities of color to understand their specific strengths and needs (p. 32). There is a need for both the children welfare and juvenile justice system to promote and provide cultural competence training to staff, increasing data tracking, updating measurements (ensuring all construct measurements are culturally appropriate as well), developing programs that incorporate with the family, and increasing diversion and stabilization programs (Piquero, 2008).

#### *Gender Disparities*

The findings from the current research also encourage the need for gender specific programs. The Juvenile Justice and Delinquency Prevention Act, reauthorized in 2008, provided a federal focus on female juvenile delinquency. Similar to the DMC requirements, it requires states to plan for gender specific preventative and treatment services (Daniels, 1999; Sherman & Greenstone, 2011) to help ensure equitable levels treatment (Chamberlain, 2002). In order to begin to reduce the inappropriate detention of females, policymakers and juvenile justice organizations need to create and focus on

gender-responsive alternatives to detention, address the trauma issues significantly related to females (i.e., domestic violence and sexual violence), create policies to “reduce detention for warrants and probation violations” (Sherman, 2005, p. 14), and begin to analyze “data with attention to the impact of practices and policies on girls and implementing reform with an understanding of girls’ needs” (Sherman, 2005, p. 14).

In a comprehensive study on female delinquency spearheaded by the Office of Juvenile Justice and Delinquency Prevention, the authors concluded that some of the key pieces needed to address delinquency prevention and intervention programs for female offenders include: addressing previous maltreatment, mental health needs, and family relationships, especially supervision styles (Zahn et al., 2010). Addressing family life has been particularly important in working with female delinquents, as many of these girls come from tumultuous family environments and lack positive relationships (Garcia & Lane, 2013; Morton & Leslie, 2006). Prior research suggests parenting and family disruptions are more negatively influential on girls leading to delinquency compared to boys (Keller, Catalano, Haggerty, & Fleming, 2002), who tend to be more influenced by peer relationships (Galbavy, 2003). Ruffolo and colleagues (2004) suggest supportive family environments, positive relationships with peers, and rational and effective coping mechanisms are all protective factors that help decrease the vulnerability towards delinquent offending and aggression. Acting out aggressively may be an outlet to increase females’ self-esteem and deal with emotions (Morton & Leslie, 2006). The theoretical importance of relationships, especially in the formative years for children, is stressed in attachment theory (Bowlby, 1988). Children in foster care tend to have higher levels of emotional and mental health issues, medical issues, and learning disabilities that

influence their ability to relate to others (Kortenkamp & Ehrele 2002). Research continues to suggest that the home environment is important for a child's wellbeing and positive development.

While there is not one gold standard in gender specific programs, there is consensus that basic level programs should include: factoring in the girl's family and community, addressing past trauma, providing empowerment by building off her assets and strengths, and providing support through relationship building skills (Sherman & Greenstone, 2011). An example of one such program for youth placed in out-of-home care is Multidimensional Treatment Foster Care (MTFC). MTFC honors gender differences in the hopes of addressing issues associated with relational problems and social aggressiveness such as mental health problems, early pregnancy, and poverty (Chamberlain, 2003; Chamberlain, Leve, & DeGarmo, 2008; Leve, Chamberlain, & Reid, 2005). Additionally, MTFC has been shown to be more cost effective when compared to residential care for those in out-of-home placements, saving taxpayers anywhere from \$21,836 to \$87,622 per youth (Aos, Phipps, Barnoski, & Leib, 2001). The key factors that seem to be the most effective for decreasing future delinquency for youth in MTFC are building relationships with an adult mentor, providing close supervision, explicitly setting limits, and creating an environment with low association with delinquent peers (Eddy & Chamberlain, 2000). Youth involved with MTFC are more likely to achieve permanency (either through reunification or adoption), experience less foster care mobility compared to those receiving standard casework services, and exhibit fewer reported behavioral problems (Fisher, Burraston, & Pears, 2005; Smith, Stormshak, Chamberlain, & Bridges-Whaley, 2001). This evidence based practice model, both cost

effective and proving effective for females, should be the focus of dually involved youth in care and made a top policy priority.

### *Multi-Systemic Youth*

In conducting this research, it became apparent that there needs to be a more effective and streamlined way to handle multi-systemic youth. One way to create this streamlined approach is through data sharing agreements. There needs to be a push to develop high quality administrative data systems in both the child welfare and juvenile delinquency systems to facilitate better quality data to be collected, and a shift towards transparency for all stakeholders (while protecting the privacy of children and families in care). Such transparency and data collection efforts will allow for more informative system evaluations, allowing for more effective system delivery (National Resource Center for Child Welfare Data and Technology, 2014). The importance of data sharing is recognized in the Juvenile Justice and Delinquency Prevention Act, which mandates that child welfare records should be provided to the juvenile court in the planning process for any dually involved youth (Sherman, 2005), however data sharing after a delinquent act has occurred may not be the most effective method.

A multisystem approach is needed in order to effectively meet the needs of children in care, but also to provide an environmental and systemic context to the children in care. A juvenile delinquent detained for a property offense may also be receiving mental health services, group home services, and special educations services, all part of agencies not in consistent communication with one another. “Systems of Care” is an evidence-based approach referring to cross-agency coordination for child-welfare involved children through sharing information, resources, and responsibility to more

efficiently meet the needs of the children in care (Whitted et al., 2013). In the “Systems of Care” approach, professionals, children and families, and community stakeholders all act as active participants in enhancing the wellbeing and outcomes for the children in care (Child Welfare Information Gateway, 2008). This approach takes into account the family’s and child’s strengths, culture, gender, language, religion, and socioeconomic class when case planning (Child Welfare Information Gateway, 2008). The “Systems of Care” incorporates the social work values’, specifically person-in-environment, honoring a client’s current needs. It is through this type of innovative thinking and working with children and families that the cycle of child welfare and/or juvenile justice involvement may be prevented or thwarted.

#### *Out-Of-Home Care and Trauma*

While kinship care did not prove statistically significant in the regression model in relation to offense severity, the researcher wanted to note the results (Gelman & Stern, 2006). The results indicated a negative relationship exists between kinship care and offense severity, suggesting that youth placed in kinship care compared to unrelated foster homes committed less serious offenses. This finding may indicate that staying within one’s family or social network while in out-of-home care acts as protective factor. This finding supports previous research on the benefits of kinship care for youth that are placed in substitute care (Koh & Testa, 2011; Wulczyn et al., 2003). The recognition of the importance of kin and keeping a child within his/her familial network coincides with an aim of the Fostering Connections to Success and Increasing Adoptions Act of 2008 (Pub L. No. 110-351 C.F.R). This policy promotes the utilization of kinship placement through guardianship subsidies (Center for Law and Social Policy, 2008; Geen, 2009).

This Act provides federal funding to states, specifically to place more children in kinship placements. Such placements may increase the youth's ability to cope with prior trauma and stay within their familial network, which the current research suggests may be beneficial in terms of decreased offense severity. The Fostering Connections policy is especially beneficial for older youth, as they have less permanency options than younger youth (Geen, 2009), a finding related to the current research as the average age of a child removed from his/her home is 13 years old. Future research should examine potential racial and gender differences in out-of-home placement decisions.

An increased focus assisting families' to stay together while protecting the safety of children and finding children who do experience home removal the best possible placements all connect with the ideas central to attachment and ecological systems theories (Bowlby, 1991; Bronfenbrenner, 1994). It is important to develop and promote policies that focus on promoting protective factors (e.g., positive attachments with adults, creating safe environments). Research suggests increasing known protective factors will help to decrease the likelihood of maltreated children engaging in delinquent behaviors (Benda & Corwyn, 2002; Crooks et al., 2007).

While these data were not able to parse out the specific influences of trauma on delinquency, prior research has established a connection. The data were able to connect youth in protective services having an increased likelihood in committing more serious offenses compared to other types of child welfare involvement. Youth exposed to trauma tend to have difficulty expressing and regulating their emotions, as such they may react to stressful situations in maladaptive or aggressive ways, typically earning them the label of "oppositional" (Ford, Chapman, Hawke, & Albert, 2007; Wolfe, Rawana & Chiodo,

2006). One evidence-based practice model with promising results is the Breakthrough Series Collaborative (BSC) launched by the National Child Traumatic Stress Network (NCTSN), with funding from the Substance Abuse and Mental Health Services Administration (SAMHSA). Launched in 2010, the focus of these series is to: “develop and implement trauma-informed child welfare practices (decisions, actions, policies, procedures, staffing, and supports for children and caregivers) that would increase the probability that children who need out-of-home placement remain in a single, appropriate, and stable home whenever possible” (Agosti, Conradi, Halladay Goldman, & Langan, 2013, p.1). The participating sites implement key trauma-informed practices into their service delivery models. Themes include: building staffs’ knowledge of trauma and evidence based treatments; develop informed trainings for all caregivers on the impact of trauma; develop and use a trauma informed mental health assessments for youth in care; develop and partner with youth, birth families, and foster families in case planning; increase the amount of trauma-informed service providers; and develop a multisystem collaboration that will best aid youth (Agosti et al., 2013).

Massachusetts is one of the nine nationwide teams partaking in this initiative. Locally, DCF has partner with LUK Crisis Center, Inc. (mental health agency) to create a trauma informed practice through the Breakthrough Collaborative Series. While evaluations are not yet available from this partnership to assess the success of the program, it represents the first step filling a needed gap in service delivery for children in DCF care. There needs to be better coordination across systems, as well as a focus on implementing policies based on evidence based practices.

In 2010, a New York based child advocacy firm, Children's Rights ([www.childrensrights.org](http://www.childrensrights.org)), sued the Massachusetts Department of Children and Families, citing that one in five youth who has been in DCF care for at least two years, experienced additional abuse and/or neglect. Additionally, DCF is ranked by the U.S. Government Accountability Office as one of the ten worst child welfare departments in the country to ensure the safety and wellbeing of children in their care, and find children permanent placements (Children's Rights, 2012). This recent lawsuit reiterates the dire need for systems transparency. The October 2013 judicial ruling, while finding in favor of DCF, recognized the failings of the department to comply with federal and internal standards and policies of child care and protection, The judge's opinion expressed concern for the multitude of evidence presented against DCF: children experiencing maltreatment in care, receiving inappropriate and unstable placements, not receiving permanent placements in a timely fashion, children not receiving needed educational and medical services, and creating effective caseload management and training for DCF workers (Children's Rights, 2013).

The future is uncertain as to what direction or changes DCF will take. In January of 2014, the Massachusetts Department of Health and Human Services hired the Child Welfare League of America (CWLA) to conduct a full independent review of DCF. This review will examine current policies and practices (Mass.Gov, 2014). It is hoped through the CWLA review and recommendations, the DCF practices will be strengthened in order to meet the needs of children in care. With the recent developments for the Department of Children and Families (Children's Rights, 2013; Mass.gov, 2014) the time is ripe for



change to focus on evidence based practices, effective policies, and a renewed focus on meeting the needs of children and families.

### **Conclusion**

This research provided an initial profile of dually involved youth in Massachusetts. Understanding the trajectory of abuse on youth and its link to delinquency is greatly needed and something these data could not provide. Additionally, understanding the youth in context of their home and neighborhood environment will provide a better picture outside just the gender or race of the youth (Evans, 2004). Future research should focus on ethnic differences as well as the interaction of racial differences between genders. More research is needed to understand the potential connection with youth's immigration status or parental immigrant status. Children in immigrant families may face unique challenges and risk factors compared to non-immigrant families, such as financial stressors, acculturation issues, and documentation issues, which could impact stress of parents' permanency and willingness to reach out for needed assistance (Berry, 2005; Fortuny, Capps, Simms, & Chaudry, 2009).

Additionally future research should parse out the influence of specific types of abuse on later offending (Grogan-Kaylor et al., 2008; Smith et al., 2005), especially the differential influence that may exist for females. Currently we are failing to fully meet the needs of children in care. Focusing on implementing current policy, while continuing to learn from effective models, is needed in order to prevent future economic burdens to taxpayers and help to create equitable successful outcomes for all children.

## References

- Aarons, G. A., Brown, S. A., Garland, A. F., & Hough, R. L. (2004). Race/ethnic disparity and correlates of substance abuse service utilization and juvenile justice involvement among adolescents with substance use disorders. *Journal of Ethnicity in Substance Abuse, 3*(1), 47–64.
- Abu-Bader, S. H. (2006). *Using statistical methods in social work practice: A complete SPSS guide*. Chicago, IL: Lyceum Books Inc.
- Ackerman, B. P., & Dozier, M. (2005). The influence of foster parent investment on children's representations of self and attachment figures. *Applied Developmental Psychology, 26*, 507-520.
- Ackerman, B. P., Kogos, J., Youngstrom, E. Stroff, K., & Izard, C. (1999). Family instability and the problem behaviors of children from economically disadvantaged families. *Developmental Psychology, 35*, 258-268.
- AECF (2011). *No place for kids: The case for reducing juvenile incarceration*. Annie E. Casey Foundation.
- AECF (March, 2012). *Expanding JDAI's focus to reduce commitments and placements*. Annie E. Casey Foundation. Retrieved from:  
<http://www.aecf.org/~media/Pubs/Topics/Juvenile%20Justice/Detention%20Reform/DemonstratingthatJurisdictionsCanRespondtoDelinquentBehavior/ExpandingFocus1.pdf>
- AECF (2013). *2013 Kids Count data book*. Annie E. Casey Foundation. Retrieved from:  
[kidscount.org](http://kidscount.org).
- AECF (2014). *Annie E. Casey Foundation initiatives: Juvenile detentions alternative*

*initiatives*. Retrieved from:

<http://www.aecf.org/MajorInitiatives/JuvenileDetentionAlternativesInitiative.aspx>

- Agosti, J., Conradi, L., Halladay Goldman, J., & Langan, H. (2013). *Using trauma-informed child welfare practice to improve placement stability breakthrough series collaborative: Promising practices and lessons learned*. Los Angeles, CA & Durham, NC: National Center for Child Traumatic Stress.
- Ainsworth, M. D. S. (1989). Attachment beyond infancy. *American Psychologist*, *44*, 709-716.
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. N. (1978). *Patterns of attachment: A psychological study of the Strange Situation*. Hillsdale, NJ: Erlbaum.
- Alexander, M. (2012). *The new Jim Crow: Mass incarceration in the age of colorblindness*. New Youth: The New Press.
- American Bar Association and the National Bar Association. (2001). *Justice by gender: The lack of appropriate prevention, diversion and treatment alternatives for girls in the justice system*. Washington, DC. Retrieved from:  
<http://www.abanet.org/crimjust/juvjus/girls.html>
- Anderson, E. (1999). *Code of the street: Decency, violence, and the moral life of the inner city*. New York: W. W. Norton.
- Aos, S., Miller, M., & Drake, E. (2006). Evidence-based public policy options to reduce future prison construction, criminal justice costs, and crime rates. *Federal Sentencing Reporter*, *19*, 275-319.
- Aos, S., Phipps, P., Barnoski, R., & Leib, R. (2001). *The comparative costs and benefits of programs to reduce crime* (No. 01-05-1201). Olympia, WA: Washington State

Institute for Public Policy.

- Aronowitz, T., Rennells, R. E., & Todd, E. (2006). Ecological influences of sexuality on early adolescent African American females. *Journal of Community Health Nursing, 23*(2), 113–122.
- Arsenio, W. F., Cooperman, S., & Lover, A. (2000). Affective predictors of preschoolers' aggression and peer acceptance: Direct and indirect effects. *Developmental Psychology, 36*(4), 438–448.
- Ay n, C . (2009). Shorter time-lines, yet higher hurdles: Mexican families' access to child welfare mandated services. *Children and Youth Services Review, 31*, 609-616.
- Barth, R. P., Wildfire, J., & Green, R. L. (2006). Placement into foster care and the interplay of urbanicity, child behavior problems, and poverty. *American Journal of Orthopsychiatry, 76*(3), 358–366.
- Bean, K. (2012). *Ecological factors and the behavioral and educational outcomes of African American students in special education*. Dissertation Abstracts International, A: The Humanities and Social Sciences. Retrieved from: <http://search.proquest.com/docview/1322719810?accountid=9673>.
- Beeman, S., Kim, H., & Bullerdick, S. (2000). Factors affecting the placement of children in kinship and non-kinship foster care. *Children and Youth Services Review, 22*, 37–54.
- Belsky, J., & Fearon, R. M. P. (2002). Infant-mother attachment security, contextual risk, and early development: A moderational analysis. *Development and Psychopathology, 14*, 293-310.
- Benda, B. B., & Corwyn, R. F. (2002). The effect of abuse in childhood and in

- adolescence on violence among adolescents. *Youth & Society*, 33(3), 339–65.
- Bennett, D. A. (2001). How can I deal with missing data in my study? *Australian and New Zealand Journal of Public Health*, 25, 464-469.
- Bernard, K., Butzin-Dozier, Z., Rittenhouse, J., & Dozier, M. (2010). Cortisol production patterns in young children living with birth parents vs children placed in foster care following involvement of child protective services. *Archives of Pediatrics and Adolescent Medicine*, 164(5), 438-443.
- Berry, J. W. (2005). Acculturation: Living successfully in two cultures. *International Journal of Intercultural Relations*, 29, 697–712.
- Beyer, M. (2011). A developmental view of youth in the juvenile justice system. In F. Sherman and F. Jacobs (Eds.) *Juvenile justice: Advancing research, policy, and practice* (pp. 3-23). Hoboken, NJ: John Wiley & Sons.
- Bishop, D. (2005). The role of race and ethnicity in juvenile justice processing. In D. Hawkins & K. Kempf-Leonard (Eds.), *Our children, their children: Confronting racial and ethnic differences in American juvenile justice*. Chicago: University of Chicago Press.
- Bishop, D., & Frazier, C. E. (1998). The Influence of Race in Juvenile Justice Processing, *Journal of Research in Crime and Delinquency*, 25(3), 242-263.
- Bolen, R. (2000) Validity of attachment theory. *Trauma, Violence and Abuse*, 1, 128–153.
- Bowlby, J. (1969). *Attachment and loss: Attachment, vol. 1*. New York: Basic Books.
- Bowlby, J. (1982). *Attachment and loss: Separation—Anxiety and anger, vol. 2*. New York: Basic Books.

- Bowlby, J. (1988). Developmental psychiatry comes to age. *American Journal of Psychiatry*, *145*, 1-10.
- Bowlby, J. (1991). *Attachment and loss: Sadness and depression, vol. 3*. New York: Basic Books.
- Boyse, K. (2010). *Child development. Developmental milestones*. University of Michigan Health System: Your Child Development and Behavior Resources. Retrieved from: <http://www.med.umich.edu/yourchild/topics/devmile.htm>
- Bridges, G. S., & Steen, S. (1998). Racial disparities in official assessments of juvenile offenders: Attributional stereotypes as mediating mechanisms. *American Sociological Review*, *63*, 554–570.
- Bright, C. L., & Jonson-Reid, M. (2008). Onset of juvenile court involvement: Exploring gender-specific associations with maltreatment and poverty. *Children and Youth Services Review*, *30*, 914–927.
- Britner, P. A., & Mossler, D. G. (2002). Professionals' decision making about out-of-home placements following instances of child abuse. *Child Abuse and Neglect: The International Journal*, *26*(4), 317–332.
- Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist*, *32*, 513–531.
- Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.
- Bronfenbrenner, U. (1992). Ecological systems theory. In R. Vasta (Ed.), *Six theories of child development: Revised formulations and current issues* (pp. 187-249). London: Jessica Kingsley.

- Bronfenbrenner, U. (1994). Ecological models of human development. In T. Husen & T. N. Postlethwaite (Eds.), *International encyclopedia of education* (2<sup>nd</sup> ed., pp. 1643–1647). New York: Elsevier Science.
- Bronfenbrenner, U. (1999). In S. L. Friedman & T. D. Wachs (Ed.), *Measuring environment across the life span: Emerging methods and concepts* (pp. 3-28). Washington, DC: American Psychological Association Press.
- Bronfenbrenner, U., & Morris, P. A. (1998). The ecology of developmental processes. In R. M. Lerner (Ed.), *Handbook of child psychology* (5th ed., Vol. 1, pp. 993–1028). New York: Wiley.
- Burns, B. J., Phillips, S. D., Wagner, H. R., Barth, R. P., Kolko, D. J., Campbell, Y., et al. (2004). Mental health need and access to mental health services by youths involved with child welfare: A national survey. *Journal of the American Academy of Child & Adolescent Psychiatry*, 43(8), 960–970.
- Cabaniss, E. R., Frabutt, J. M., Kendrick, M. H., & Arbuckle, M. B. (2007). Reducing disproportionate minority contact in the juvenile justice system: Promising practices. *Aggression and Violent Behavior*, 12, 393-401.
- Cahn, E. (2006). *How the Juvenile Justice System Reduces Life Options for Minority Youth*. Washington, D.C.: The Joint Center Health Policy Institute.
- Calley, N. G. (2012). Juvenile offender recidivism: An examination of risk factors. *Journal of Child Sexual Abuse*, 21(3), 257-272.
- Carson, D. C., Sullivan, C. J., Cochran, J. K., & Lersch, K. M. (2009). General Strain Theory and the relationship between early victimization and drug use. *Deviant Behavior*, 30, 54-88.

- Cauffman, E. (2008). Understanding the female offender. *Juvenile Justice*, 18(2), 119–142.
- Cauffman, E. (2004). A statewide assessment of mental health symptoms among juvenile offenders in detention. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43, 430–439.
- Cauffman, E., Feldman, S., Watherman, J., & Steiner, H. (1998). Posttraumatic stress disorder among female juvenile offenders. *Journal of the American Academy of Child & Adolescent Psychiatry*, 37(11), 1209-1216.
- Center for Juvenile Justice Reform (CJJR) (2013). *Crossover youth practice model: Participating jurisdictions*. Retrieved from:  
<http://cjjr.georgetown.edu/pm/cypmparticipants.html>
- Center for Law and Social Policy (2008). *The Fostering Connections to Success and Increasing Adoptions Act of 2008*. Washington, DC: Author.
- Cernkovich, S. A., Lancot, N., & Giordano, P. C. (2008). Predicting adolescent and adult antisocial behavior among adjudicated delinquent females. *Crime and Delinquency*, 54, 3–33.
- Chamberlain, P. (January 24–26, 2002). *The Multidimensional Treatment Foster Care Model: Research and community-based services*. Presented at the 2nd National Training Conference on Juvenile Detention Reform. Portland, Oregon: Annie E. Casey Foundation.
- Chamberlain, P. (2003). *Treating chronic juvenile offenders: Advances made through the Oregon Multidimensional Treatment Foster Care model*. Washington, DC: American Psychological Association.



- Chamberlain, P., Leve, L. D., & DeGarmo, D. S. (2008). Multidimensional treatment foster care for girls in the juvenile justice system: 2-year follow-up of a randomized clinical trial gender specific multidimensional treatment foster care, *Journal of Consulting and Clinical Psychology, 75*(1), 187-93.
- Chapman, J. F., Desai, R. A., Falzer, P. R., & Borum, R. (2006). Violence risk and race in a sample of youth in juvenile detention: The potential to reduce disproportionate minority confinement. *Youth Violence and Juvenile Justice, 4*(2), 170-184.
- Chesney-Lind, M., & Pasko, L. (2004). *The Female Offender: Girls, Women and Crime. (2nd Ed.)*. Thousand Oaks: Sage.
- Chesney-Lind, M., & Shelden, R. G. (2004). *Girls, delinquency, and juvenile justice (3rd Ed.)*. Belmont, CA: Wadsworth/Thomson Learning.
- Cheung, C., Goodman, D., Leckie, G., & Jenkins, J. M. (2011). Understanding contextual effects on externalizing behaviors in children in out-of-home care: Influence of workers and foster families. *Children and Youth Services Review, 33*, 2050-2060.
- Child Welfare Information Gateway. (2008). *Systems of care. Bulletin for professionals*. Children's Bureau/ACYF. Retrieved from: [www.childwelfare.gov/pubs/soc/](http://www.childwelfare.gov/pubs/soc/).
- Children's Rights (2012). *New reports show Massachusetts failing to protect children in foster care*. Retrieved from: <http://www.childrensrights.org/news-events/press/new-reports-show-massachusetts-failing-to-protect-children-in-foster-care/>
- Children's Rights (November 25, 2013). *MA Department of Children and Families Failed to comply with national standards, state and federal requirements and*

*its own internal policies, Federal Judge finds.* Retrieved from:

<http://www.childrensrights.org/news-events/press/ma-department-of-children-and-families-failed-to-comply-with-national-standards-state-and-federal-requirements-and-its-own-internal-policies-federal-judge-finds/>

Chipman, R., Wells, S., & Johnson, M. (2002). The meaning of quality in kinship foster care: Caregiver, child and worker perspectives. *Families in Society*, 83, 508–520.

Chiu, Y. L., Ryan, J. P., & Herz, D. C. (2011). Allegations of maltreatment and delinquency: Does risk of juvenile arrest vary substantiation status? *Children and Youth Services Review*, 33, 855–860.

Cicchetti, D. (2004). An odyssey of discovery: Lessons learned through three decades of research on child maltreatment. *The American Psychologist*, 59(8), 731 - 741.

Cicchetti, D., Rogosch, F., & Toth, S. (2006). Fostering secure attachment in infants in maltreating families through preventive interventions. *Development and Psychopathology*, 18, 623 - 649.

Cicchetti, D., Toth, S. L. (1995). A developmental psychopathology perspective on child abuse and neglect. *Journal of the American Academy of Child & Adult Psychiatry*, 34(5), 541-65.

Cicchetti, D., & Toth, S.L. (1998). Perspectives on research and practice in developmental psychopathology. In W. Damon (Ed.), *Handbook of child psychology* (5<sup>th</sup> Ed., Vol. 4, pp. 479–583). New York: Wiley.

Citizens for Juvenile Justice (2011). *Navigating JJ in MA*. Retrieved March 5, 2011 from: <http://www.cfjj.org/navigating.html>

Code of Mass. Regs. Tit. 110, § 2.00

- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: Erlbaum.
- Cohen, J. A., Mannarino, A. P., Deblinger, E., & Berliner, L. (2009). Cognitive-behavioral therapy for children and adolescents. In E. B. Foa, T. M. Keane, M. J. Friedman, and J. A. Cohen (Eds.), *Effective treatments for PTSD: Practice guidelines from the International Society for Traumatic Stress Studies* (2nd ed., pp. 223-244). New York: Guilford Press.
- Colman, R., & Widom, C. (2004). Childhood abuse and neglect and adult intimate relationships: A prospective study. *Child Abuse and Neglect*, 28(11), 1133–1151.
- Conger, D., & Ross, T. (2001). *Reducing the foster care bias in juvenile detention decisions: The impact of Project Confirm*. New York: Administration for Children's Services, Vera Institute of Justice.
- Conger, D., & Ross, T. (2009). An outcome evaluation of Project Confirm. In T. Ross (Ed.), *Child welfare: The challenges of collaboration* (pp. 193-212). Washington, DC: Urban Institute.
- Cook, C. R., Little, S. G., & Akin-Little, A. (2007). Interventions based on attachment theory: A critical analysis. *Journal of Early Child Infant Psychology*, 3, 61-73.
- Cook, A., Spinazzola, J.F., Lanktree, C., Blaustein, M. Sprague, C., Cloitre, R.D., Hubbard, R. Kagan, R., Liautaud, J., Mallah, K., Olafson, E., & van der Kolk, B. (2005). Complex trauma in children and adolescents. *Psychiatric Annals*, 35, 390-398.
- Cook, A., Spinazzola, J., Ford, J., Lanktree, C., Balustein, M., Sprague, C., Cloitre, M.,

- DeRosa, R., Hubbard, R., Kagan, R., Liautaud, J., Karen, M., Olafson, E., van der Kolk, B., (2007). Complex trauma in children and adolescents. *Focal Point*, 4-8.
- Courtney, M. E. (1995). Reentry to foster care of children returned to their families. *The Social Service Review*, 69(2), 226–241.
- Crittenden P. M. (1995). Attachment and psychopathology. In S. Goldberg, R. Muir, J. Kerr (Eds.). *Attachment theory: Social, developmental and clinical perspectives* (pp. 376-406). Hillsdale, NJ: Analytic Press.
- Crittenden, P. M., & Ainsworth, M. (1989). Child maltreatment and attachment theory. In D. Cicchetti and V. Carlson (Eds.), *Child maltreatment, theory and research on the causes and consequences of child abuse and neglect* (pp. 432- 463). New York: Cambridge University Press.
- Crooks, C. V., Scott, K. L., Wolfe, D. A., Chiodo, D., & Killip, S. (2007). Understanding the link between childhood maltreatment and violent delinquency: What do schools have to add? *Child Maltreatment*, 12, 269–80.
- Culhane, D. P., Metraux, S., and Moreno, M. (2011). *Young adult outcomes of exiting dependent or delinquent care in Los Angeles County*. Los Angeles: County of Los Angeles.
- Cusick, G. R., Goerge, R. M., & Bell, K. C. (2009). *From corrections to community: The juvenile reentry experience as characterized by multiple systems involvement*. Chicago, IL: Chapin Hall Center for Children at University of Chicago.
- Daniels, M. (1999). The female intervention team, *Juvenile Justice*, 6(1), 14-20.
- Dannerbeck, A., & Yan, J. (2011). Missouri's crossover youth: Examining the relationship between their maltreatment history and risk of violence. *OJJDP*

*Journal of Juvenile Justice*, 1(1), 78–92.

Darling, N. (2007). Ecological systems theory: the person in the center of the circles.

*Research in Human Development*, 4(3-4), 203-217.

Darwish, D., Esquivel, G., Houtz, J., & Alfonso, V. (2001). Play and social skills in maltreated and non-maltreated preschoolers during peer interactions. *Child Abuse and Neglect*, 25(1), 13–31.

De Bellis, M. D. (2005). The psychobiology of neglect. *Child Maltreatment*, 10, 150-172.

DCF (July 1, 2013a). *Permanency planning policy, policy # 2013-01*. Commonwealth of Massachusetts: Department of Children and Families.

DCF (2013b). *Massachusetts Department of Children and Families annual profile*.

Commonwealth of Massachusetts: Data Management Unit, Information Technology Division.

Department of Youth Services [DYS], (2011). *Populations files*, Retrieved from:

<http://www.mass.gov/?pageID=eohhs2subtopic&L=4&L0=Home&L1=Researcher&L2=Specific+Populations&L3=Juvenile+Offenders&sid=Eeohhs2>

DYS (2013). *Public information packet 2013*. Commonwealth of Massachusetts:

Department of Youth Services.

Detlaff, A. J., & Cardoso, J. B. (2010). Mental health need and service use among Latino children of immigrants in the child welfare system. *Children and Youth Services Review*, 32, 1373-1379.

Detlaff, A. J., & Earner, I. (2010). *Children of immigrants in the child welfare system:*

*Findings from the National Survey of Child and Adolescent Well-being*. Migration and Child Welfare National Network. Retrieved from:

<http://www.americanhumane.org/assets/pdfs/children/pc-childofimmigrantpdf.pdf>

- DeVooght, K., Allen, T., & Geen, R. (2008). *Federal, state, and local spending to address child abuse and neglect in SFY 2006*. Casey Family Programs. Retrieved from: [http://www.ChildTrends.org/Files//Child Trends-2009 02 17 FR CWFinancePaper.pdf](http://www.ChildTrends.org/Files//ChildTrends-20090217FR_CWFinancePaper.pdf).
- DiClemente, R. J., Salazar, L. F., & Crosby, R. A. (2007). A review of STD/HIV preventive interventions for adolescents: Sustaining effects using an ecological approach. *Journal of Pediatric Psychology, 32*(8), 888–906.
- Dierkhising, C. B., Ko, S. J., Woods-Jaeger, B., Briggs, E. C., Lee, R., Pynoos, R. S., (2013). Trauma histories among justice-involved youth: Findings from the National Child Traumatic Stress Network. *European Journal of Psychotraumatology, 4*, 1-12.
- Dozier, M., & Lindhiem, O. (2006). This is my child: Differences among foster parents in commitment to their young children. *Child Maltreatment, 11*, 338-345.
- Dozier, M., Lindhiem, O., & Ackerman, J. P. (2005). Attachment and Biobehavioral Catch-up: An intervention targeting empirically identified needs of foster infants. In L. J. Berlin, Y. Ziv, L. Amaya-Jackson, & M. T. Greenberg (Eds.). *Enhancing early attachments: Theory, research, intervention, and policy* (pp. 178-194). New York: Guilford Press.
- Dozier, M., Stovall, C., Albus, K., & Bates, B. (2001). Attachment for infants in foster care: The role of caregiver state of mind. *Child Development, 72*, 1467-1477.
- Dozier, M., Stovall-McClough, C., & Albus, K. (2008). Attachment and psychopathology in adulthood. In J. Cassidy and P. R. Shaver (Eds.), *Handbook of attachment:*

*Theory, research, and clinical applications (2<sup>nd</sup> Ed.)* (pp.718-744). New York: Guilford Press.

Dozier, M., & Rutter, M. (2008). Challenges to the development of attachment relationships faced by young children in foster and adoptive care In J. Cassidy and P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications (2<sup>nd</sup> Ed.)* (pp.698-717). New York: Guilford Press.

Eddy, J. M., & Chamberlain, P. (2000). Family management and deviant peer association as mediators of the impact of treatment condition on youth antisocial behavior. *Journal of Consulting and Clinical Psychology, 68*, 857–863.

Edelman, M. W. (2008). *The sea is so wide and my boat is so small*. New York, NY: Hyperion.

Egeland, B., Yates, T., Appleyard, K., & Van Dulmen, M. (2002). The long-term consequences of maltreatment in the early years: A developmental pathway model to antisocial behavior. *Children's Services: Social Policy, Research, and Practice, 5*(4), 249–260.

Ehrle, J., & Geen, R. (2002). Kin and non-kin foster care: Findings from a national survey. *Children and Youth Services Review, 24*, 15–35.

Engen, R., Steen, S., & Bridges, G. (2002). Racial disparities in the punishment of youth: A theoretical and empirical assessment of the literature. *Social Problems, 49*, 194-220.

English, D., Widom, C., & Branford, C. (2002). *Childhood victimization and delinquency, adult criminality, and violent criminal behavior: A replication and extension*. Washington, DC: National Institute of Justice.

- English, D.J., Widom, C.S., & Branford, C. (2004). Another look at the effects of child abuse. *National Institute of Justice Journal*, 251, 23-24.
- Evans, G. W. (2004). The environment of childhood poverty. *American Psychologist*, 59(2), 77-92.
- Everett, J., Chipungu, S., & Leashore, B. (Eds.) (2004). *Child welfare revisited*. New Brunswick, NJ: Rutgers University Press.
- Fabella, D., Slappey S., Richardson, B., Light, A., & Christie S. (2007). *Disproportionality: Developing a public agency strategy*. Washington, D.C.: National Association of Public Child Welfare Administrators.
- Fang, X., Brown, D. S., Florence, C. S., & Mercy, J. A. (2012). The economic burden of child maltreatment in the United States and implications for prevention. *Child Abuse & Neglect*, 36(2), 156-165.
- Felitti, V. J., Anda, R. F., Nordenberg, D. et al. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventative Medicine*, 14(4), 245-258.
- Fergusson, D. M., Woodward, L. J., & Horwood, L. J. (2000). Risk factors and life processes associated with the onset of suicidal behaviour during adolescence and early adulthood. *Psychological Medicine*, 30(1), 23-39.
- Ferrell, F. (2004). Life after foster care. *State Legislatures*, 30(9), 28-30.
- Finkelhor D, Kendall-Tackett K. (1997). A developmental perspective on the childhood impact of crime, abuse and violent victimization. In D. Cicchetti and S. Toth (Eds.). *Rochester symposium on developmental psychopathology and*



*developmental perspectives on trauma*. Rochester, NY: University of Rochester Press.

Finkelhor, D., Jones, L., Shattuck, A., Seito, K. (January 2013). *Updated trends in child maltreatment, 2012*. Crimes Against Children Research Center. Retrieved from: [http://www.unh.edu/ccrc/pdf/CV203\\_Updated%20trends%202012\\_2\\_12\\_31.pdf](http://www.unh.edu/ccrc/pdf/CV203_Updated%20trends%202012_2_12_31.pdf)

Finkelhor, D., Turner, H., Ormrod, R., & Hamby, S. L. (2009). Violence, abuse, and crime exposure in a national sample of children and youth. *Pediatrics, 124*(5), 1411–1423.

Finzi, R., Ram, A., Har-Even, D., Shnit, D., & Weizman, A. (2001). Attachment styles and aggression in physically abused and neglected children. *Journal of Youth and Adolescence, 30*(6), 769-786.

Fisher, P. A., Burraston, B., & Pears, K. C. (2005). The Early Intervention Foster Care Program: Permanent placement outcomes from a randomized trial. *Child Maltreatment, 10*, 61–71.

Flower, C., McDonald, J., & Sumski, M. (2005). *Review of turnover in Milwaukee county private agency child welfare ongoing case management staff*. Milwaukee: Bureau of Milwaukee Child Welfare.

Fluke, J., Jones-Harden, B., Jenkins, M., & Ruehrdanz, A. (2011). *Research synthesis on child welfare disproportionality and disparities*. Denver, CO: American Humane Association.

Ford, J. D., Chapman, J. F., Hawke, J., & Albert, D. (2007). *Trauma among youth in the juvenile justice systems: Critical issues and new directions*. Child Welfare League of America. Retrieved from:

[http://www.ncmhjj.com/pdfs/Trauma\\_and\\_Youth.pdf](http://www.ncmhjj.com/pdfs/Trauma_and_Youth.pdf)

- Ford, J. D., Connor, D. F., & Hawke, J. (2009). Complex trauma among psychiatrically impaired children: A cross-sectional, chart-review study. *Journal of Clinical Psychiatry, 70*(8), 1155–1163.
- Ford, J. D., Elhai, J. D., Connor, D. F., & Frueh, B. C. (2010). Poly-victimization and risk of posttraumatic, depressive, and substance use disorders and involvement in delinquency in a national sample of adolescents. *Journal of Adolescent Health, 46*(6), 545–552.
- Ford, J. D., Hartman, J. K., Hawke, J., & Chapman, J. C. (2008). Traumatic victimization posttraumatic stress disorder, suicidal ideation, and substance abuse risk among juvenile justice-involved youths. *Journal of Child and Adolescent Trauma, 1*, 75–92.
- Fortuny, K., Capps, R., Simms, M., & Chaudry, A. (2009). *Children of immigrants: National and state characteristics*. Washington, DC: Urban Institute. Retrieved from: <http://www.urban.org/publications/412212.html>
- Fostering Connections to Success and Promoting Adoptions Act, Pub L. No. 110-351 C.F.R. (2008).
- Frame, L., Berrick, J. D., & Brodowski, M. L. (2000). Understanding reentry to out-of-home care for reunified infants. *Child Welfare, 79*(4), 339–369.
- Frederick, J., & Goddard, C. (2008). Living on an island: Consequences of childhood abuse, attachment disruption and adversity in later life. *Child & Family Social Work, 13*(3), 300-310.
- Friedrich, W. N. (2002). *Psychological assessment of sexually abused children and*

*their families*. Thousand Oaks, CA: Sage Publications.

- Galbavy, R. J. (2003). Juvenile delinquency: Peer influences, gender differences, and prevention. *Journal of Prevention and Intervention in the Community, 25*(2), 65–78.
- Garcia, C. A., & Lane, J. (2012). Dealing with the fall-out: Identifying and addressing the role that relationship strain plays in the lives of girls in the juvenile justice system. *Journal of Criminal Justice, 40*, 259–267.
- Garcia, C., & Lane, J. (2013). What a girl wants, what a girl needs: Findings from a gender-specific focus group study. *Crime & Delinquency, 59*(4), 536-561.
- Geen, R. (2009). The Fostering Connections to Success and Increasing Adoptions Act: Implementation issues and a look ahead at additional child welfare reforms. *Child Trends*, Washington, DC.
- Gelman, A., & Stern, H. (2006). The difference between “significant” and “not significant” is not itself statistically significant. *The American Statistician, 60*(4), 328-331.
- Goerge, R. (1994). The effect of public child welfare worker characteristics and turnover on discharge from foster care. In R. Barth, J. D. Berrick, & N. Gibert (Eds.), *Child welfare research review, vol. I* (pp. 205– 217). New York: Columbia University Press.
- Graham, S., & Lowery, B. S. (2004). Priming unconscious racial stereotypes about adolescent offenders. *Law and Human Behavior, 28*(5), 483-504.
- Greeson, J.K.P., Ake III, G.S., Howard, M.L., Briggs, E.C., Ko, S.L., Pynoos, R.S., Kisiel, C.L., Gerrity, E.T., Fairbank, J.A., Layne, C.M., & Steinberg, A.M.

- (2011). Complex trauma and mental health in children and adolescents placed in foster care: Findings from the National Child Traumatic Stress Network. *Child Welfare, 90*(6), 91-108.
- Grogan-Kaylor, A., Ruffolo, M. C., Ortega, R. M., & Clark, J. (2008). Behaviors of youth involved in the child welfare system. *Child Abuse & Neglect, 32*, 35-49.
- Hagan, J., Macmillan, R., & Wheaton, B., (1996). New kid in town: social capital and the life course effects of family migration on children. *American Sociological Review 61*, 368–385.
- Halemba, G., & Siegel, G. (2011). *Doorways to delinquency: Multi-system involvement of delinquent youth in King County (Seattle, WA)*. Pittsburgh: National Center for Juvenile Justice.
- Halemba, G. J., Siegel, G., Lord, R. D., & Zawacki, S. (November 30, 2004). *Arizona dual jurisdiction study: Final report*. Pittsburg, PA: National Center for Juvenile Justice.
- Harachi, T. W., Fleming, C. B., White, H. R., Ensminger, M. E., Abbott, R. D., Catalano, R. F., et al. (2006). Aggressive behavior among girls and boys during middle childhood: Predictors and sequelae of trajectory group membership. *Aggressive Behavior, 32*, 279–293.
- Harms, P. (2003). *OJJDP fact sheet: Detention in delinquency cases: 1990–1999*. Washington, DC: US Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention.
- Hartley, C. C., & Petrucci, C. J. (2004). Practicing Cultural Competent Therapeutic Jurisprudence: Collaboration Between Social Work and Law. *Washington*

*University Journal of Law and Policy*, 14, 133-148.

Hawkins, D., Laub, J., Lauritsen, J., & Cothorn, L. (2000). *Race, ethnicity, and serious and violent offending*. Washington, D.C.: Office of Juvenile Justice and

Delinquency Prevention.

Hayden Foster, C. (2012). Race and child welfare policy: State-level variations in disproportionality. *Racial and Social Problems*, 4, 93-101.

Heide, K. M., & Solomon, E. P. (2004). *Parental neglect in cases of kids who kill parents*. Paper presented at the 2004 Annual Meeting of the Academy of Criminal Justice Sciences, Las Vegas, NV.

Heffernan, L. (2014). *JDAI in one page*. Information for JDAI Governance Committee Meeting on February 14, 2014.

Hennessey, M., Ford, J. D., Mahoney, K., Ko, S., & Siegfried, C. (2004). *Trauma among girls in the juvenile justice system*. Los Angeles, CA: National Child Traumatic Stress Network.

Herz, D. C. (2009). Assessing Disproportionate Minority Confinement in the Nebraska Juvenile Justice System, Executive Summary. Retrieved from:  
<https://www.ncjrs.gov/App/Publications/abstract.aspx?ID=248339>

Herz, D. C., Krinsky, M., & Ryan, J. (2006). Improving system responses to crossover youth: The role of research and practice partnership. *The Link*, 1–12.

Herz, D., Lee, P., Lutz, L., Stewart, M., Tuell, J., & Wiig, J. (2012). *Addressing the needs of multi-system youth: Strengthening the connection between child welfare and juvenile justice*. Washington, DC: The Center for Juvenile Justice Reform, Georgetown University, and Robert F. Kennedy Children's Action Corps.

- Herz, D., & Ryan, J. P. (2008). *Building multisystem approaches in child welfare and juvenile justice*. Washington, DC: Center for Juvenile Justice Reform.
- Herz, D. C., Ryan, J. P., & Bilchik, S. (2010). Challenges facing crossover youth: An examination of juvenile justice decision making and recidivism. *Family Court Review, 48*(2), 305–321.
- Hill, R. B. (2006). *Synthesis of research on disproportionality in child welfare: An update*. Washington, DC: Center for the Study of Social Policy.
- Hirschi, T., & Gottfredson, M. (1983). Age and the explanation of crime. *American Journal of Sociology, 90*, 1330-1333.
- Hjalmarsson, R. (2008). Criminal justice involvement and high school completion. *Journal of Urban Economics, 63*(2), 613-630.
- Hollist, D. R., Hughes, L. A., & Schaible, L. M. (2009). Adolescent maltreatment, negative emotion, and delinquency: An assessment of general strain theory and family- based strain. *Journal of Criminal Justice, 37*, 379-387.
- Holtan, A., Ronning, J. A., Handergard, B. H., & Sourander, A. (2005). A comparison of mental health problems in kinship and nonkinship foster care. *European Child & Adolescent Psychiatry, 14*, 200–207.
- Hosmer, D. W., & Lemeshow, S. (2000). *Applied Logistic Regression (2<sup>nd</sup> Ed.)*. New York: John Wiley and Sons, Inc.
- Hsia, H., Bridges, G., & McHale, M. (2004). *Disproportionate minority confinement: 2002 update*. Washington, D.C.: Office of Juvenile Justice and Delinquency Prevention.
- Huang, H., Ryan, J. P., & Herz, D. (2012). The journey of dually-involved youth: The

- description and prediction of rereporting and recidivism. *Children and Youth Services Review*, 34(1), 254-260.
- Hughes, D. (2004). An attachment-based treatment of mal-treated children and young people. *Attachment and Human Development*, 6, 263–278.
- Hussey, J. M., Chang, J. J., & Kotch, J. B. (2006). Child maltreatment in the United States: Prevalence, risk factors, and adolescent health consequences. *Pediatrics*, 118(3), 933–942.
- Jackson, L. J., O'Brien, K., & Pecora, P. J. (2011). Posttraumatic Stress Disorder among foster care alumni: The role of race, gender, and foster care context. *Child Welfare*, 90(5), 71-93.
- JDAI (2013). *State of the Initiative*. JDAI Statewide 6<sup>th</sup> Annual Conference. Presented November 12, 2013.
- Johnson, K., Ereth, J., and Wagner, D. (2004). *Juvenile delinquency among children involved in a child maltreatment investigation: A longitudinal study*. Madison, WI: Children's Research Center.
- Jones, E. (2006). *Places to watch: Promising practices to address racial disproportionality in child welfare services*. Casey-CSSP Alliance for Racial Equity in Child Welfare.
- Jones Harden, B. (2004). Safety and stability for foster children: A developmental perspective. *The Future of Children*, 14(1), 31–47.
- Jonson-Reid, M. (2002). Exploring the relationship between child welfare intervention and juvenile corrections involvement. *American Journal of Orthopsychiatry*, 72(4), 559–576.

- Jonson-Reid, M., & Barth, R. P. (2000). From maltreatment report to juvenile incarceration: The role of child welfare services. *Child Abuse & Neglect, 24*(4), 505–520.
- Jonson-Reid, M., & Barth, R. (2003). Probation foster care as an outcome for children exiting child welfare foster care. *Social Work, 48*, 348–361.
- Juvenile Justice and Delinquency Prevention Act of 1992, 42 U.S.C. 5601 et seq. (2008).
- Kakar, S., Friedmann, M., & Peck, L. (2002). Girls in detention: The results of focus group discussion interviews and official records review. *Journal of Contemporary Criminal Justice, 18*, 57–73.
- Kastner, J. J. (2007). Beyond the bench: Solutions to reduce the disproportionate number of minority youth in the family and criminal court systems. *Journal of Law and Policy, 15*, 941-981.
- Keely, J. H. (2006). Will adjudicated youth return to school after residential placement? The results of a predictive variable study, *Journal of Correctional Education, 57*(1), 65-85.
- Keller, T. E., Catalano, R. F., Haggerty, K. P., & Fleming, C. B. (2002). Parent figure transitions and delinquency and drug use among early adolescent children of substance abusers. *The American Journal of Drug and Alcohol Abuse, 28*, 399–427.
- Kelley, B. T., Thornberry, T., & Smith, C. (1997). *In the wake of child maltreatment*. Washington, DC: OJJDP Juvenile Justice Bulletin.
- Kempf-Leonard, K., & Sample, L. (2001). Have federal sentencing guidelines reduced severity? *Journal of Quantitative Criminology, 17*, 111-144.



- Kisiel, C. L., Fehrenbach, T., Small, L., & Lyons, J. (2009). Assessment of complex trauma exposure, responses and service needs among children and adolescents in child welfare. *Journal of Child and Adolescent Trauma*, 2, 143– 160.
- Knickmeyer, R. C., Gouttard, S., Kang, C., Evans, D., Wilber, K., Smith, J. K., Hamer, R. M., Lin, W., Gerig, G., & Gilmore, J. H. (2008). A structural MRI study of human brain development from birth to 2 Years. *The Journal of Neuroscience*, 28(47), 12176 –12182.
- Kobak, R. (1999). The emotional dynamics of disruptions in attachment relationships: Implications for theory, research, and clinical intervention. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment* (pp. 21–43). New York: Guilford Press.
- Kobak, R. R., Rosenthal, N., & Serwik, A. (2005). The attachment hierarchy in middle childhood: Conceptual and methodological issues. In K. A. Kerns & R. A. Richardson (Eds.), *Attachment in middle childhood* (pp.71-88). New York: Guilford Press.
- Koh, E., & Testa, M. F. (2011). Children discharged from kin and non-kin foster homes: Do the risks of foster care re-entry differ? *Children and Youth Services Review*, 33, 1497-1505.
- Kort-Butlet, L. A. (2010). Experienced and vicarious victimization: Do social support and self-esteem prevent delinquent responses? *Journal of Criminal Justice*, 38, 496-505.
- Kortenkamp, K., & Ehrele, J. (2002). *The well-being of children involved with the child welfare system: A national overview*. Washington, DC: Urban Institute.
- Kroger, J. E. (1980). Residential mobility and self-concept in adolescence. *Adolescence*

15, 967–977.

- Lawrence, C. R., Carlson, E. A., & Egeland, B. (2006). The impact of foster care on development. *Development and Psychopathology, 18*, 57–76.
- Leeb, R. T., Paulozzi, L., Melanson, C., Simon, T., & Arias, I. (2007). *Child maltreatment surveillance: Uniform definitions for public health and recommended data elements, Version 1.0*. Atlanta (GA): Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Retrieved from: <http://www.cdc.gov/ViolencePrevention/pub/CMP-Surveillance.html>.
- Leiber, M. J. (2002). Disproportionate minority confinement (DMC) of youth: An analysis of state and federal efforts to address the issue. *Crime and Delinquency, 48*, 3–45.
- Leiber, M. J., & Fox, K. C. (2005). Race and the Impact of Detention on Juvenile Justice Decision Making. *Crime & Delinquency, 51*(4), 470-497.
- Lexcen, F., & Redding, R. (2000). *Mental health needs of juvenile offenders. Juvenile Justice Fact Sheet*. Charlottesville: University of Virginia, Institute of Law, Psychiatry & Public Policy.
- Leve, L. D., Chamberlain, P., & Reid, J. B. (2005) Intervention outcomes for girls referred from juvenile justice: Effects on delinquency. *Journal of Consulting and Clinical Psychology, 73*, 1181–1185.
- Lin, C. H. (2012). Children who run away from foster care: Who are the children and what are the risk factors?. *Children and Youth Services Review, 34*(4), 807-813.
- Lyons-Ruth, K., & Jacobvitz, D. (2008). Attachment disorganization: Genetic factors,

- parenting contexts, and developmental transformation from infancy to adulthood. In J. Cassidy and P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 666–697). New York: Guilford Press.
- Maas, C., Herrenkohl, T. I., & Sousa, C. (2008). Review of research on child maltreatment and violence in youth. *Trauma, Violence, and Abuse, 9*(1), 56–67.
- Main, M., & Solomon, J. (1990). Procedures for identifying infants as disorganized/disoriented during the Ainsworth Strange Situation. In M. T. Greenberg, D. Cicchetti and E. M. Cummings (Eds.), *Attachment in the preschool years: Theory, research, and intervention* (pp. 121-160). Chicago, IL: University of Chicago Press.
- Majd, K., & Puritz, P. (2009). The cost of justice: How low-income youth continue to pay the price of failing indigent defense systems. *Georgetown Journal on Poverty Law and Policy, 16*, 543-583.
- Mann, E. A., & Reynolds, A. J. (2006). Early intervention and juvenile delinquency prevention: Evidence from the Chicago Longitudinal Study. *Social Work Research, 30*(3), 153-167.
- Mass.gov (August 7, 2012). Governor Patrick signs legislation to reform children in need of services system. Retrieved from:  
<http://www.mass.gov/governor/pressoffice/pressreleases/2012/2012807-governor-signs-reform-for-children-services.html>
- Mass.gov (January 9, 2014). HHS Secretary Polanowicz Announces Independent Review

of DCF to Strengthen Commonwealth's Child Welfare System. Retrieved from:  
<http://www.mass.gov/eohhs/gov/newsroom/press-releases/eohhs/independent-review-of-dcf-announced.html>

Mauer, M., & King, R. S. (2004). *Schools and prisons: Fifty years after Brown v. Board of Education*. The Sentencing Project. Retrieved from:  
[www.sentencingproject.org/Admin/Documents/publications/rd\\_brownvboard.pdf](http://www.sentencingproject.org/Admin/Documents/publications/rd_brownvboard.pdf).

Maughan, A., & Cicchetti, D. (2002). Impact of child maltreatment and interadult violence on children's emotion regulation abilities and socioemotional adjustment. *Child Development, 73*, 1525–1542.

McCord, J. (Ed.) (1997). *Violence and childhood in the inner city*. New York, NY: Cambridge University Press.

McCord, J., Widom, C. S., Crowell, N. A. (Eds). (2001). *Juvenile crime, juvenile justice*. Washington, DC: National Academy Press.

McKim, J. (February 2, 2014). *Savage toll of abuse for children in DCF care*. Boston Globe. Retrieved from:  
<http://www.bostonglobe.com/metro/2014/02/02/massachusetts-children-under-state-protection-die-from-abuse-with-alarmingfrequency/2TcwcpIbWnrANkKKQs1CVP/story.html>

McNamee, R.L. (2006). *An overview of the science of brain development*. Pittsburgh, PA: University of Pittsburgh.

Meade, C., & Ickovics, J. (2005). Systematic review of sexual risk among pregnant and

mothering teens in the USA: Pregnancy as an opportunity for integrated prevention of STD and repeat pregnancy. *Social Science and Medicine*, 60(4), 661–678.

Mendel, R. A. (2009). *Two decades of JDAI: From demonstration project to national standard*. Baltimore: The Annie E. Casey Foundation.

Mendel, R. A. (2011). *No place for kids: The case for reducing juvenile incarceration*. Baltimore: Annie E. Casey Foundation.

Mennen, F. E., & O'Keefe, M. (2005). Informed decisions in child welfare: The use of attachment theory. *Children and Youth Services Review*, 27(6), 577-593.

Moffitt, T. E., Caspi, A., Rutter, M., & Silva, P. A. (2001). *Sex differences in antisocial behavior: Conduct disorder, delinquency, and violence in the Dunedin Longitudinal Study*. New York, NY: Cambridge University Press.

Mongillo, E. A., Briggs-Gowan, M., Ford, J. D., & Carter, A. S. (2009). Impact of traumatic life events in a community sample of toddlers. *Journal of Abnormal Child Psychology*, 37(4), 455–468.

Morris, L., & Freundlich, M. (2004). *Youth involvement in the child welfare and juvenile justice systems: A case of double jeopardy?* Washington DC: Child Welfare League of America Press.

Morton, G. M., & Leslie, L. A. (2006). The adolescent female delinquent. *Journal of Feminist Family Therapy*, 17(1), 17-50.

Nagin, D. S., Piquero, A. R., Scott, E. S., & Steinberg, L. (2006). *Public preferences for rehabilitation versus incarceration of juvenile offenders: Evidence from a Contingent Valuation Survey*. University of Virginia Law School: The John M.

Olin Program in Law and Economics Working Paper Series.

- National Child Traumatic Stress Network. (2003). *Complex trauma in children and adolescents*. Los Angeles, CA and Durham, NC. Retrieved from:  
[http://www.nctsn.org/nctsn\\_assets/pdfs/edu\\_materials/ComplexTrauma\\_All.pdf](http://www.nctsn.org/nctsn_assets/pdfs/edu_materials/ComplexTrauma_All.pdf)
- National Council of Juvenile and Family Court Judges (2005). *Juvenile delinquency guidelines: Improving court practice in juvenile delinquency cases*. Reno, NV:  
 National Council of Juvenile and Family Court Judges.
- National Resource Center for Child Welfare Data and Technology (2014). *Data sharing*.  
 Retrieved from: <http://www.nrcwdt.org/data-sharing/>
- National Trauma Traumatic Stress Network (2012). *Complex trauma*. Retrieved from:  
<http://www.nctsn.org/trauma-types#q2>
- Needell, B., Brookhart, A., & Lee, S. (2003). Black children and foster care placement in California. *Children and Youth Services Review*, 25(5/6), 393-408.
- Nellis, A. M. (2005). *Seven steps to develop and evaluate strategies to reduce disproportionate minority contact (DMC)*. Juvenile Justice Evaluation Center Guidebook Series. Washington, DC: Juvenile Justice Evaluation Center.
- Nellis, A., & Richardson, B. (2010). Getting beyond failure: Promising approaches for reducing DMC. *Youth Violence and Juvenile Justice*, 8(3), 266–276.
- Newton, R., Litrownik, A., & Landsverk, J. (2000). Children and Youth in Foster Care: Disentangling the Relationship between Problem Behaviors and Number of Placements. *Child Abuse and Neglect*, 24(10), 1363–74.
- OJJDP (2012). Disproportionate Minority Contact. *OJJDP in Focus, November 2012*.  
 U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice

and Delinquency Prevention. Retrieved from:

<http://www.ojjdp.gov/pubs/239457.pdf>

OJJDP (2013). *Juveniles in residential placement, 2010*. OJJDP National Report Series, Bulletin. U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention. Retrieved from:  
<http://www.ojjdp.gov/pubs/241060.pdf>

OJJDP (2013b). *Juveniles arrests, 2010*. OJJDP National Report Series, Bulletin. U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention. Retrieved from: <http://www.ojjdp.gov/pubs/242770.pdf>

OJJDP (2014). *Statistical briefing book, glossary*. U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention. Retrieved from: <http://www.ojjdp.gov/ojstatbb/glossary.html>.

Overbeek, G., Vollebergh, W., Meeus, W., Engels, R., & Luijpers, E. (2001). Course, co-occurrence, and longitudinal associations of emotional disturbance and delinquency from adolescence to young adulthood: A six-year three-wave study. *Journal of Youth and Adolescence*, 30(4), 401–426.

Pajer, K. A. (1998). What happens to ‘bad’ girls? A review of adult outcomes of antisocial adolescent girls. *American Journal of Psychiatry*, 55(7), 862-870.

Pajer, K., Stouthamer-Loeber, M., Gardner, W., & Loeber, R. (2006). Women with antisocial behaviour: Long-term health disability and help-seeking for emotional problems. *Criminal Behaviour and Mental Health*, 16, 29–42.

Pardeck, J. (1985). A profile of the child likely to experience unstable foster care. *Adolescence*, 20(79), 689–695.

- Pecora, P. J., Kessler, R. C., Williams, J., O'Brien, K., Downs, A. C., English, D., White, J., Hiripi, E., White, C.R., Wiggins, T., & Holmes, K. (2005). *Improving family foster care: Findings from the Northwest Foster Care Alumni Study*. Seattle, WA: Casey Family Programs.
- Petrocelli, J. V. (2003). Hierarchical multiple regression in counseling research: Common problems and possible remedies. *Measuring and Evaluation in Counseling and Development, 36*, 9-22.
- Piquero, A. R. (2008). Disproportionate minority contact. *The Future of Children, 18*(2), 59–79.
- Piquero, A., & Brame, R. W. (2008). Assessing the race-crime and ethnicity-race relationship of a sample of serious adolescent delinquents. *Crime and Delinquency 54*(3), 390-422.
- Pope, C. E., Lovell, R., & Hsia, H. M. (2002). *Synthesis of disproportionate minority confinement (DMC) research literature (1989-1999)*. Washington, DC: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention.
- Pope, C., & Snyder, H. (2003). *Race as a factor in juvenile arrests*. Washington, D.C. Office of Juvenile Justice and Delinquency Prevention.
- Postlethwait, A. W., Barth, R. P., & Guo, S. (2010). Gender variation in delinquent behavior changes of child welfare-involved youth. *Children and Youth Services Review, 32*(3), 318–324.
- Prather, W., & Golden, J. A. (2009). A behavioral perspective of childhood trauma and attachment issues: Toward alternative treatment approaches for children with a history of abuse. *International Journal for Behavioral Consultation and Therapy,*



5(2), 222-241.

Price, J. M., & Landsverk, J. (1998). Social information-processing patterns as predictors of social adaptation and behavior problems among maltreated children in foster care. *Child Abuse and Neglect*, 22(9), 845–858.

Pulkkinen, L., & Pitkanen, T. (1993). Continuities in aggressive behavior from childhood to adulthood. *Aggressive Behavior*, 19(4), 249-263.

Rawal, P., Romansky, J., Jenuwine, M., & Lyons, J. S. (2004). Racial differences in the mental health needs and service utilization of youth in the juvenile justice system. *Journal of Behavioral Health Services and Research*, 31, 242-254.

Richardson, B., McCrory, K., Rembert, J., McCormick, M., & Graf, M. (2008). *Juvenile detention and alternatives: Perspectives from three counties: Report to the Governor's Youth Race and Detention Task Force*. Iowa City: DMC Resource Center, University of Iowa School of Social Work, National Resource Center for Family Centered Practice.

Roberts, D. (2003). *Shattered bonds: The color of the child welfare systems*. New York: Basic Civitas Books.

Roberts, D. (2008). The racial geography of child welfare: Towards a new research paradigm. *Child Welfare*, 87(2), 125–150.

Robst, J., Armstrong, M., Dollard, N., & Rohrer, L. (2013). Arrests among youth after out-of-home mental health treatment: Comparisons across community and residential treatment settings. *Criminal Behaviour and Mental Health*, 23, 162-176.

Rosenthal, J. A., & Curiel, H. F. (2006). Modeling behavioral problems of children in the

- child welfare system: Caregiver, youth, and teacher perceptions. *Children and Youth Services Review*, 28, 1391–1408.
- Rosich, K. J. (2007). Race, ethnicity, and the criminal justice system. *American Sociological Association*. Retrieved from: <http://asanet.org>
- Ross, T. (2009). *Child welfare: The challenges of collaboration*. Washington, DC: Urban Institute Press.
- Ross, T., Conger, D., & Armstrong, M. (2002). Bridging child welfare and juvenile justice: Preventing unnecessary detention of foster children. *Child Welfare*, 81(3), 471–494.
- Ruchkin, V., Henrich, C. C., Jones, S. M., Vermeiren, R., & Schwab-Stone, M. (2007). Violence exposure and psychopathology in urban youth: The mediating role of posttraumatic stress. *Journal of Abnormal Child Psychology*, 35(4), 578–593.
- Ruffolo, M. C., Sarri, R., Goodkind, S. (2004). Study of delinquent, diverted, and high-risk adolescent girls. *Social Work Research*, 28(4), 237-245.
- Ryan, J. P. (2006). Dependent youth in juvenile justice: Do positive peer culture programs work for victims of child maltreatment? *Research on Social Work Practice*, 16(5), 511-519.
- Ryan, J. P. (2012). Substitute care in child welfare and the risk of arrest: does the reason for placement matter? *Child Maltreatment*, 17(2), 164-171.
- Ryan, J. P., Garnier, P., Zyphur, M., & Zhai, F. (2006). Investigating the effects of caseworker characteristics in child welfare. *Children and Youth Services Review*, 28, 993-1006.
- Ryan, J. P., Herz, D., Hernandez, P., & Marshall, J. (2007). Maltreatment and

- delinquency: Investigating child welfare bias in juvenile justice processing. *Children and Youth Services Review*, 29, 1035–1050.
- Ryan, J. P., Hong, J. S., Herz, D., & Hernandez, P. M. (2010). Kinship foster care and the risk of juvenile delinquency. *Children and Youth Services Review*, 32(12), 1823-1830.
- Ryan, J. P., Marshall, J. M., Herz, D., & Hernandez, P. M. (2008). Juvenile delinquency in child welfare: Investigating group home effects. *Children and Youth Services Review*, 30, 1088–1099.
- Ryan, J. P., & Testa, M. F. (2005). Child maltreatment and juvenile delinquency: Investigating the role of placement and placement instability. *Children and Youth Services Review*, 27(3), 227-249.
- Ryan, J. P., Testa, M. F., & Zhai, F. (2008). African American males in foster care and the risk of delinquency: The value of social bonds and permanence. *Child Welfare*, 87(1), 115-140.
- Sampson, R. J., Morenoff, J. D., & Raudenbush, S. W. (2005). Social anatomy of racial and ethnic disparities in violence. *American Journal of Public Health*, 95(2), 224-232.
- Sampson, R. J., & Wilson, W. J. (1995). Toward a theory of race, crime, and urban inequality (pp. 37-56). In: J. Hagan & R. Peterson (Eds.) *Crime and inequality*. Stanford, CA: Stanford University Press.
- Schwartz, A. E. (2007). “Caught” versus “taught”: Ethnic identity and the ethnic socialization experiences of African American adolescents in kinship and non-kinship foster placement. *Children and Youth Services Review*, 29, 1201–1219.

- Schweiger, W. K., & O'Brien, M. (2005). Special needs adoption: An ecological systems approach. *Family Relations, 54*, 512–522.
- Sherman, F. T. (2005). Detention reform and girls: Challenges and solutions. *Pathways to Juvenile Detention Reform, 13*, Annie E. Casey Foundation. Retrieved from: <http://www.aecf.org/KnowledgeCenter/Publications.aspx?pubguid={AA79FD34-42A5-4C5C-ADD4-C40BF1B34B5B}>
- Sherman, F. T., & Greenstone, J. H. (2011). The role of gender in youth systems: Grace's story. In F. T. Sherman and F. H. Jacobs (Eds.) *Juvenile justice: Advancing research, policy, and practice* (pp. 131-155). Hoboken, NJ: John Wiley & Sons.
- Shields, A., & Cicchetti, D. (2001). Parental maltreatment and emotion dysregulation as risk factors for bullying and victimization in middle childhood. *Journal of Clinical Child Psychology, 30*, 349–363.
- Shonkoff, J. P., & Phillips, D. A. (Eds.). (2000). *From neurons to neighborhoods: The science of early childhood development*. National Academies Press.
- Shufelt, L. S., & Coccozza, J. C. (2006). *Youth with mental health disorders: Results from a multi-state prevalence study*. Delmar, NY: National Center for Mental Health and Juvenile Justice (NCHJJ) Policy Research Associates Retrieved from: <http://www.ncmhjj.com/pdfs/publications/PrevalenceRPB.pdf>
- Shumow, L., Smith, T. J. and Smith, M. C. (2009). Academic and Behavioral Characteristics of Young Adolescents in Self-Care, *The Journal of Early Adolescence, 29*(2), 233-257.
- Sickmund, M., Sladky, T.J., Kang, W., & Puzanchera, C. (2011) *Easy Access to the*

*Census of Juveniles in Residential Placement*. Retrieved from:

<http://www.ojjdp.gov/ojstatbb/ezacjrp/>

- Sinclair, I., & Wilson, K. (2003). Matches and mismatches: The contribution of carers and children to the success of foster placements. *British Journal of Social Work*, 33, 871-884.
- Smith, W. (2011). *Youth leaving foster care: A developmental, relationship-based approach to practice*. New York: Oxford University Press.
- Smith, C., Ireland, T. O., & Thornberry, T. P. (2005). Adolescent maltreatment and its impact on young adult antisocial behavior. *Child Abuse & Neglect*, 29, 1099-1119.
- Smith, D. K., Leve, L. D., & Chamberlain, P. (2006). Adolescent girls' offending and health- risking sexual behavior: The predictive role of trauma. *Child Maltreatment*, 11, 346-353.
- Smith, C., & Thornberry, T. P. (1995). The relationship between childhood maltreatment and adolescent involvement in delinquency. *Criminology*, 33, 451-481.
- Smith, D., Stormshak, E., Chamberlain, P., & Bridges-Whaley, R. (2001). Placement disruption in treatment foster care. *Journal of Emotional and Behavioral Disorders*, 9(3), 200-205.
- Snyder, H. (2000). *Juvenile arrests 1999*. Washington, DC: US Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention.
- Snyder, H., & Sickmund, M. (2006). *Juvenile offender and victims: A national report*. Washington, DC: Office of Juvenile Justice and Delinquency Prevention.

- Spear, L.P. (2010). *The behavioral neuroscience of adolescence*. New York: W.W. Norton.
- Sroufe, L. A. (1996). *Emotional development: The organization of emotional life in the early years*. New York: Cambridge University Press.
- Sroufe, L. A. (2005). Attachment and development: A prospective, longitudinal study from birth to adulthood. *Attachment and Human Development, 7*, 349-367.
- Sroufe, L. A., Carlson, E. A., Levy, A. K., & Egeland, B. (1999). Implications of attachment theory for developmental psychopathology. *Development and Psychopathology, 11*, 1-13.
- Sroufe, L. A., Egeland, B., Carlson, E. A., & Collins, W. A. (2005). *The development of the person: The Minnesota Study of Risk and Adaptation from Birth to Adulthood*. New York: Guilford Press.
- Sroufe, L. A., Egeland, B., & Kreutzer, T. (1990). The fate of early experience following developmental change: Longitudinal approaches to individual adaptation in childhood. *Child Development, 61*, 1363-1373.
- Sroufe, L. A., & Fleeson, J. (1986). Attachment and the construction of relationships. In W. Hartup and Z. Rubin (Eds.), *Relationships and development* (pp. 51-76). Hillsdale, NJ: Erlbaum.
- Steffensmeier, D., Schwartz, J., Zhong, H., & Ackerman, J. (2005). An assessment of recent trends in girls violence using diverse longitudinal sources: Is the gender gap closing? *Criminology, 43*, 355-405.
- Stewart, A., Livingston, M., & Dennison, S. (2008). Transitions and turning points: Examining the links between child maltreatment and juvenile offending. *Child*

*Abuse and Neglect*, 32, 51–66.

Stovall, K. C., & Dozier, M. (1998). Infants in foster care: An attachment theory perspective. *Adoption Quarterly*, 2(1), 55–88.

Stovall, K. C., & Dozier, M. (2000). The development of attachment in new relationships: Single subject analyses for 10 foster infants. *Development and Psychopathology*, 12, 133-156.

Stovall-McClough, K. C., & Dozier, M. (2004). Forming attachments in foster care: Infant attachment behaviors during the first 2 months of placement. *Development and Psychopathology*, 16, 253-271.

Strolin-Goltzman, J., Kollar, S., & Trinkle, J. (2010). Listening to the voices of children in foster care: Youths speak out about child welfare workforce turnover and selection. *Social Work*, 55(1), 47-53.

Strozier, A. L., & Krisman, K. (2007). Capturing caregiver data: An examination of kinship care custodial arrangement. *Children and Youth Services Review*, 29, 226–246.

Swahn, M., Whitaker, D., Phippen, C., Leeb, R., Teplin, L., Abram, K., & McClelland, G. (2006). Concordance between self-reported maltreatment and court records of abuse or neglect among high-risk youths. *American Journal of Public Health*, 96(10), 1849–53.

Teplin, L., Abram, K., McClelland, G., Dulcan, M., & Mericle, A. (2002). Psychiatric disorders in youth in juvenile detention. *Archives of General Psychiatry*, 59, 1133–1143.

Thornberry, T. P. (2008, May 7). *Co-occurrence of problem behaviors among*

*adolescents*. Presented at Multi-System Approaches in Child Welfare and Juvenile Justice: Wingspread Conference.

Tudge, J. R. H., Mokrova, I., Hatfield, B. E., & Karnik, R. B. (2009). Uses and misuses of Bronfenbrenner's bioecological theory of human development. *Journal of Family Theory & Review, 1*, 198-210.

U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. (2012). *Child welfare outcomes 2008–2011: Report to Congress*. Retrieved from: <http://cwoutcomes.acf.hhs.gov/data/downloads/pdfs/massachusetts.pdf>

U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. (2013). *Child maltreatment 2012*. Retrieved from: <http://www.acf.hhs.gov/programs/cb/research-data-technology/statistics-research/child-maltreatment>

U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. (2013). *The AFCARS Report: Preliminary Estimates for FY 2012 as of November 2013 (20)*. Retrieved from: [www.acf.hhs.gov/sites/default/files/cb/afcarsreport20.pdf](http://www.acf.hhs.gov/sites/default/files/cb/afcarsreport20.pdf)

U.S. Department of Justice (2011), *Office of Juvenile Justice and Delinquency Prevention statistical briefing book*, Washington, DC. Retrieved from: <http://www.ojjdp.gov/ojstatbb/default.asp>

U.S. Department of Justice (December, 2011), *Office of Juvenile Justice and Delinquency*



*Prevention 2011 bulletin*, Washington, DC, Retrieved from:

<http://www.ojjdp.gov/publications/pubresults.asp>

- Usher, C., Randolph, K., & Gogan, H. (1999). Placement patterns in foster care. *Social Service Review*, 73(1), 22–36.
- van der Kolk, B. A. (2003). The neurobiology of childhood trauma and abuse. *Child and Adolescent Psychiatric Clinics of North America*, 12(2), 293-317.
- van IJzendoorn, M. H. (1995). Adult attachment representations, parental responsiveness, and infant attachment: A meta-analysis on the predictive validity of the Adult Attachment Interview. *Psychological Bulletin*, 117, 387-403.
- van IJzendoorn, M. H., Goldberg, S., Kroonberd, P. M., & Frenkel, O. J. (1992). The relative effects of maternal and child problems on the quality of attachment: A meta-analysis of attachment in clinical samples. *Child Development*, 65, 1014-1027.
- van IJzendoorn, M. H., & Kroonenberg, P. M. (1988). Cross-cultural patterns of attachment: A meta analysis of the Strange Situation. *Child Development*, 59, 147-156.
- Verrechhia, P. J., Fetzer, M. D., Lemmon, J. H., & Austin, T. L. (2010). An examination of direct and indirect effects of maltreatment dimensions and other ecological risks on persistent youth offending. *Criminal Justice Review*, 35, 220–43.
- Walters, D., Zanghi, M., Ansell, D., Armstrong, E., & Sutter, K. (2011). *Transition planning with adolescents: A review of principles and practices across systems*. Tulsa, OK: National Resource Center for Youth Development.

- Wasserman, G. A., McReynolds, L. S., Lucas, C. P., Fisher, P., & Santos, L. (2002). The voice DISC-IV with incarcerated male youths: Prevalence of disorder. *Journal of the American Academy of Child and Adolescent Psychiatry, 41*, 314–321.
- Weinberger, D.R., Elvevag, B., & Giedd, J.N. (2005). *The adolescent brain: A work in progress*. Washington, DC: National Campaign to Prevent Teen Pregnancy.  
Retrieved from: <http://www.thenationalcampaign.org/resources/pdf/BRAIN.pdf>
- Western, B., & Beckett, K. (1999). How unregulated is the U.S. labor market? The penal system as a labor market institution, *American Journal of Sociology, 104*(4), 1030-60.
- Whitted, K. S., Delavega, E., & Lennon-Dearing, R. (2013). The youngest victims of violence: Examining the mental health needs of young children who are involved in the child welfare and juvenile justice systems. *Child and Adolescent Social Work Journal, 30*, 181–195.
- Widom, C. S. (1989). Child abuse, neglect, and violent criminal behavior. *Criminology, 27*, 251–271.
- Widom, C. S. (1991). The role of placement experiences in mediating the criminal consequences of early childhood victimization. *American Journal of Orthopsychiatry, 61*(2), 195–209.
- Widom, C. S. (2003). Understanding child maltreatment and juvenile delinquency: The research. In J. Wiig, C. S. Widom, & J. Tuell (Eds.), *Understanding child maltreatment and juvenile delinquency. From research to effective program, practice and systematic solutions* (pp. 195–209). Washington, DC: CWLA Press.
- Widom, C. S., Czaja, S., Wilson, H. W., Allwood, M., & Chauhan, P. (2013). Do the

- long-term consequences of neglect differ for children of different races and ethnic backgrounds?. *Child Maltreatment*, 18(1), 42-55.
- Widom, C. S., & Maxfield, M. G. (2001). An update on the “cycle of violence”: Research in brief, *National Institute of Justice*, 1–8.
- Widom, C. S., Schuck, A. M., & White, H. R. (2006). An examination of pathways from childhood victimization to violence: The role of early aggression and problematic alcohol use. *Violence and Victims*, 21, 675–690.
- Wikstrom, P., & Loeber, R. (2000). Do disadvantaged neighborhoods cause well-adjusted children to become adolescent delinquents? A study of male juvenile serious offending, individual risk and protective factors, and neighborhood context. *Criminology*, 37, 1109–1142.
- Wolfe, D., Rawana, J., & Chiodo, D. (2006). Abuse and trauma. In D. Wolfe & E. Mash (Eds.), *Behavioral and emotional disorders in adolescents*. New York, NY: Guilford Press.
- Wolpaw, J. W., & Ford, J. D. (2004). *Assessing exposure to psychological trauma and posttraumatic stress in the juvenile justice population*. Los Angeles, CA: National Child Traumatic Stress Network.
- Wulczyn, F. (2008). *Child well-being as human capital*. Chicago: Chapin Hall at the University of Chicago. Retrieved from:  
[http://www.chapinhall.org/article\\_abstract.aspx?ar=1468&L2=61&L3=130](http://www.chapinhall.org/article_abstract.aspx?ar=1468&L2=61&L3=130)
- Wulczyn, F., Kogan, J., & Harden, B. J. (2003). Placement stability and movement trajectories. *Social Service Review*, 77(2), 212-236.
- Yampolskaya, S., Armstrong, M. I., McNeish, R. (2011). Children placed in out-of-home

care: Risk factors for involvement with the juvenile justice system. *Violence and Victims, 26*(2), 231-245.

Zahn, M. A., Agnew, R., Fishbein, D., Miller, S., Winn, D. M., Dakoff, G., Kruttschnitt, C., Giordano, P., Gottfredson, D. C., Payne, A. A., Feld, B. C., & Chesney-Lind, M. (April 2010). *Causes and correlates of girls' delinquency*. U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention.

Zahn, M., Hawkins, S., Chiancone, J., & Whitworth, A. (2008). *Girls study group: Understanding and responding to girls' delinquency*. U.S. Department of Justice, Office of Justice Programs. Retrieved from: [www.ojp.usdoj.gov/ojjdp](http://www.ojp.usdoj.gov/ojjdp).

**Appendix A. AFCARS Reasons for Home Removal (U.S. DHHS, 2012).**

Reason	Explanation
Physical Abuse	Alleged or substantiated physical abuse, injury or maltreatment of the child by a person responsible for the child's welfare.
Sexual Abuse	Alleged or substantiated sexual abuse or exploitation of a child by a person who is responsible for the child's welfare.
Neglect	Alleged or substantiated negligent treatment or maltreatment, including failure to provide adequate food, clothing, shelter or care.
Parent Alcohol Abuse	Principal caretaker's compulsive use of alcohol that is not of a temporary nature.
Parent Drug Abuse	Principal caretaker's compulsive use of drugs that is not of a temporary nature.
Child Alcohol Abuse	Child's compulsive use of or need for alcohol. This element should include infants addicted at birth. This element should include infants addicted at birth.
Child Drug Abuse	Child's compulsive use of or need for narcotics. This element should include infants addicted at birth. This element should include infants addicted at birth.
Child Disability	Clinical diagnosis by a qualified professional of one or more of the following: Mental retardation; emotional disturbance; specific learning disability; hearing, speech or sight impairment; physical disability; or other clinically diagnosed handicap. Include only if the disability(ies) was at least one of the factors which led to the child's removal.
Child Behavior	Behavior in the school and/or community that adversely affects socialization, learning, growth, and moral development. This would include the child's running away from home or other placement.
Death (Parent)	Family stress or inability to care for child due to death of a parent or caretaker.
Jail (Parent)	Temporary or permanent placement of a parent or caretaker in jail that adversely affects care for the child.
Caretaker Inability	Physical or emotional illness or disabling condition adversely affecting the caretaker's ability to care for the child.
Abandonment	Child left alone or with others; caretaker did not return or make whereabouts known.
Voluntary Surrender	In writing, assigned the physical and legal custody of the child to the agency for the purpose of having the child adopted.
Inadequate Housing	Housing facilities were substandard, overcrowded, unsafe or otherwise inadequate resulting in their not being appropriate for the parents and child to reside together. Also includes homelessness.

### Appendix B. DYS Grid Level (DYS Legal Department, 2014)

Offense	Grid level
Contempt of court (court violation)	1
Disorderly conduct	1
Disturbing the peace	1
Drinking in public	1
Gambling	1
Malicious destruction of property-under \$250	1
Possession (class d)	1
Possession (class e)	1
Shoplifting	1
Trespass	1
A&B	2
B&E	2
Carrying dangerous weapon	2
Contributing to the delinquency of a minor	2
Counterfeit sticker/license-114n	2
Distribute (class d)	2
Forgery on check or promissory note	2
Having a firearm w/o a permit	2
Malicious destruction of property-over \$250	2
Operating without a license-114f	2
Possession (class a)	2
Possession (class b)	2
Possession of a dangerous weapon	2
Receiving and/or concealing stolen property	2
A&B on child with injury	3
A&B with dangerous weapon	3
B&E (felony)	3
Bomb threat	3
Counterfeit money	3
Distribute (class a)	3
Gun law-carrying a firearm	3
Indecent A&B	3
OUI of liquor or drugs & serious injury	3
Unarmed robbery	3
A&B with dangerous weapon	4
Armed robbery	4
Attempted rape	4
Burning a dwelling	4
Distribute (class b)-cocaine	4
Kidnapping	4
Involuntary manslaughter	4
Armed assault & robbery	5
Attempted murder	5
Carjacking	5
Rape	5
Home invasion	6
Manslaughter	6
Murder in the 2 <sup>nd</sup> degree	6

### Appendix C. Offense Type Definitions

<b>Offense Type</b>	<b>Definition</b>
<b>Person</b>	The infliction or threat of bodily harm (DYS, 2013)
<b>Property</b>	Includes burglary, larceny-theft, motor vehicle theft, and arson (OJJDP, 2014)
<b>Weapons</b>	Unlawful sale, distribution, manufacture, alteration, transportation, possession, or use of a deadly or dangerous weapon, or accessory, or attempt to commit any of these acts (OJJDP, 2014).
<b>Drugs</b>	State and/or local offenses relating to the unlawful possession, sale, use, growing, and manufacturing of narcotic drugs. The following drug categories are specified: opium or cocaine and their derivatives (morphine, heroin, codeine); marijuana; synthetic narcotics - manufactured narcotics that can cause true addiction (demerol, methadone); and dangerous nonnarcotic drugs (barbiturates, benzedrine) (OJJDP, 2014).
<b>Motor Vehicles</b>	Unlawful taking, or attempted taking, of a self-propelled road vehicle owned by another, with the intent to deprive the owner of it permanently or temporarily (OJJDP, 2014).
<b>Public Order</b>	Unlawful interruption of the peace, quiet, or order of a community, including offenses called disturbing the peace, vagrancy, loitering, unlawful assembly, and riot (OJJDP, 2014).