

**PATTERNS OF JUSTICE SYSTEM INVOLVEMENT
AMONG CHILD WELFARE-INVOLVED YOUTH**

by

Karen M. Kolivoski

BASW, Mercyhurst College, 2005

MSW, University of Pittsburgh, 2006

Submitted to the Graduate Faculty of

University of Pittsburgh in partial fulfillment

of the requirements for the degree of Doctor of Philosophy

University of Pittsburgh

2012

UNIVERSITY OF PITTSBURGH
SCHOOL OF SOCIAL WORK

This dissertation was presented

by

Karen M. Kolivoski

It was defended on

June 7, 2012

and approved by

Sara Goodkind, Assistant Professor, School of Social Work

Kevin H. Kim, Associate Professor,
School of Psychology in Education, Joseph M. Katz Graduate School of Business

Aaron R. Mann, Associate Professor, School of Social Work

Dissertation Director: Jeffrey Shook, Associate Professor,
School of Social Work, School of Law

Copyright © by Karen M. Kolivoski

2012

PATTERNS OF JUSTICE SYSTEM INVOLVEMENT AMONG CHILD WELFARE-INVOLVED YOUTH

Karen M. Kolivoski, PhD

University of Pittsburgh, 2012

Using empirical data to examine the nature and extent of justice system involvement among groups of young people with placement experiences in the child welfare system can help streamline policies to better target those most at-risk for juvenile detention and jail. However, research has yet to fully address the unique groups within this population utilizing juvenile and criminal justice system measures. Thus, I use trajectory analysis to examine differences in justice system involvement and child welfare placements as related to demographics, child welfare experiences, and other systems involvement.

Data come from a larger study on child welfare children and youth in a birth cohort in Allegheny County, Pennsylvania; the sample for this study focused on one child per family with at least one year in out of home child welfare placement ($N = 794$). I performed semiparametric group-based polynomial logistic regression trajectory analysis to determine distinct trajectory groups within the larger sample on juvenile and criminal justice system measures, as well as for three main child welfare placement types. I conducted multinomial logistic regression to examine predictors that differentiated justice system group membership. I performed cross-tabulations of the trajectory groups to show detail of the relationship between justice system trajectories and placement trajectories.

Results indicated that a five-group model fit the best conceptually and statistically for justice systems, foster homes, and group homes, and a four-group model fit best for regular residential placements. Child welfare youth have high percentages of involvement in multiple systems, and heterogeneity of justice system involvement exists among child welfare youth. Although most have no to low justice system involvement, others have substantial involvement grouped on similar experiences. Congregate care placement was only a significant predictor for the chronic justice system group.

This research has important findings that can guide our interventions for youth, particularly in the areas of screening and assessment. A quantitative screening tool could be an efficient way of identifying young people most at risk for justice system involvement, while a qualitative assessment could include in-depth questions acknowledging that child welfare and other system experiences matter for justice system involvement.

TABLE OF CONTENTS

| | |
|---|-----------|
| PREFACE | xv |
| 1.0 INTRODUCTION..... | 19 |
| 1.1 THE CHILD WELFARE AND JUSTICE SYSTEMS' CHILDREN AND YOUTH..... | 19 |
| 2.0 HISTORICAL CONTEXT, CONCEPTUAL FRAMEWORKS, AND LITERATURE REVIEW..... | 24 |
| 2.1 HISTORICAL CONTEXT..... | 24 |
| 2.1.1 Historical Context of Child Welfare and Justice Systems Youth..... | 24 |
| 2.2 RELEVANCE TO SOCIAL WORK..... | 31 |
| 2.2.1 Social Work Practice and Policy Implications..... | 32 |
| 2.3 THEORETICAL FRAMEWORKS..... | 33 |
| 2.3.1 Moffitt's Developmental Taxonomy..... | 35 |
| 2.3.2 The Age-Graded Life-Course Perspective..... | 39 |
| 2.3.3 Social-Justice Model..... | 41 |
| 2.4 EMPIRICAL FINDINGS ON YOUTH INVOLVED IN THE CHILD WELFARE AND JUSTICE SYSTEMS..... | 44 |
| 2.4.1 Within-Group Child Welfare Differences..... | 46 |
| 2.4.2 The Role of Placement in Child Welfare and the Justice Systems..... | 46 |

| | |
|--|----|
| 2.4.3 Placement and Other Aspects of Child Welfare System Experiences... | 49 |
| 2.4.4 Sex, Placement, and Juvenile Justice Involvement..... | 50 |
| 2.4.5 Race, Placement, and Juvenile Justice Involvement..... | 51 |
| 2.4.6 Placement and Justice System Trajectories..... | 54 |
| 2.4.7 Placement and Adult Criminality..... | 55 |
| 2.4.8 Placement and Other Systems..... | 58 |
| 2.5 GAPS IN CURRENT RESEARCH..... | 60 |
| 2.5.1 The Unclear Role of Child Welfare System Experiences: Placement... | 61 |
| 2.5.2 Limited Research on Experiences within Justice Systems..... | 61 |
| 2.5.3 Not Longitudinal, Not Across Systems..... | 63 |
| 3.0 METHODS..... | 66 |
| 3.1 RESEARCH DESIGN AND RESEARCH QUESTIONS..... | 66 |
| 3.1.1 Data..... | 69 |
| 3.1.2 Independent Variables..... | 72 |
| 3.1.2.1 Demographics..... | 72 |
| 3.1.2.2 Child Welfare System Experiences..... | 72 |
| 3.1.2.3 Other Systems Involvement..... | 75 |
| 3.1.3 Outcome Measures..... | 77 |
| 3.1.3.1 Justice System Involvement..... | 77 |
| 3.1.3.2 Child Welfare Placement Types..... | 79 |
| 3.2 DATA ANALYSIS PLAN..... | 80 |
| 3.2.1 Trajectory Analysis..... | 81 |
| 3.2.2 Multinomial Logistic Regression..... | 85 |

| | |
|---|------------|
| 3.2.3 Cross-Tabulations..... | 85 |
| 4.0 RESULTS FOR JUSTICE SYSTEM TRAJECTORIES, JUSTICE SYSTEM TRAJECTORY GROUP DESCRIPTIVE INFORMATION, AND MULTINOMIAL LOGISTIC REGRESSION..... | 87 |
| 4.0.1 Sample..... | 88 |
| 4.1 TRAJECTORY MODELING OF JUSTICE SYSTEM INVOLVEMENT..... | 92 |
| 4.2 GROUP MEMBERSHIP DESCRIPTIVE RESULTS OF JUSTICE SYSTEM INVOLVEMENT TRAJECTORIES..... | 97 |
| 4.2.1 Group 1 – No/Low Justice System Involvement..... | 97 |
| 4.2.2 Group 2 – Early Age Justice System Involvement..... | 101 |
| 4.2.3 Group 3 – Late Adolescence into Adult Justice System Involvement.. | 102 |
| 4.2.4 Group 4 – Short-term, High Justice System Involvement..... | 104 |
| 4.2.5 Group 5 – Chronic Justice System Involvement..... | 106 |
| 4.2.6 Percentages of Mental Health Service Use Type by Justice System Group Membership..... | 108 |
| 4.2.7 Summary of Justice System Trajectory Groups..... | 112 |
| 4.3 MULTINOMIAL LOGISTIC REGRESSION..... | 116 |
| 4.3.1 Summary of Regression Results..... | 123 |
| 4.3.2 Additional Comparisons Between Justice System Trajectory Groups | 124 |
| 5.0 RESULTS FOR CHILD WELFARE PLACEMENT TRAJECTORIES AND TRAJECTORY CROSS-TABULATIONS..... | 129 |
| 5.1 TRAJECTORY MODELING OF FOSTER HOME PLACEMENT..... | 129 |

| | |
|---|-----|
| 5.1.1 Group 1 – No/Low Foster Home Involvement/After Age 8..... | 134 |
| 5.1.2 Group 2 – Late Adolescence Foster Home Involvement..... | 135 |
| 5.1.3 Group 3 – Early Adolescence Foster Home Involvement..... | 138 |
| 5.1.4 Group 4 – Pre-Adolescent Foster Home Involvement..... | 139 |
| 5.1.5 Group 5 – Consistent Foster Home Involvement..... | 140 |
| 5.2 TRAJECTORY MODELING OF GROUP HOME PLACEMENT..... | 141 |
| 5.2.1 Group 1 – No or Low Group Home Involvement..... | 144 |
| 5.2.2 Group 2 – Early Adolescence Group Home Involvement..... | 146 |
| 5.2.3 Group 3 – Consistent Group Home Involvement..... | 149 |
| 5.2.4 Group 4 – Starts at Age 15, Then Decreases for Group Home Involvement..... | 149 |
| 5.2.5 Group 5 – Quick Peak in Late Adolescence Group Home Involvement... | 150 |
| 5.3 TRAJECTORY MODELING OF REGULAR RESIDENTIAL PLACEMENT | 151 |
| 5.3.1 Group 1 – No or Low Regular Residential Involvement..... | 153 |
| 5.3.2 Group 2 – Peak Before Age 15 Regular Residential Involvement..... | 154 |
| 5.3.3 Group 3 – Peak Before Age 17 Regular Residential Involvement..... | 156 |
| 5.3.4 Group 4 – Consistent Regular Residential Involvement..... | 158 |
| 5.4 CROSS-TABULATIONS..... | 159 |
| 5.4.1 Justice System Trajectories by Foster Home Trajectories..... | 160 |
| 5.4.2 Justice System Trajectories by Group Home Trajectories..... | 162 |
| 5.4.3 Justice System Trajectories by Regular Residential Trajectories..... | 165 |

| | | |
|-------|--|-----|
| 5.4.4 | Child Welfare Placement Type Trajectory Cross-tabulations..... | 166 |
| 5.4.5 | Summary of Cross-tabulations..... | 170 |
| 6.0 | DISCUSSION..... | 172 |
| 6.1 | SUMMARY..... | 172 |
| 6.1.1 | Discussion of Key Findings..... | 173 |
| 6.2 | RACE AND BROADER CONTEXT..... | 184 |
| 6.3 | NEED FOR THEORY EXPANSION..... | 193 |
| 6.4 | LIMITATIONS..... | 194 |
| 6.5 | STRENGTHS..... | 195 |
| 6.5.1 | The Role of Child Welfare Placements..... | 195 |
| 6.5.2 | Limited Research on Experiences within Justice Systems..... | 196 |
| 6.5.3 | Not Longitudinal, Not Across Systems..... | 197 |
| 6.6 | IMPLICATIONS FOR PRACTICE AND POLICY..... | 197 |
| 6.6.1 | Quantitative Screening Instrument Implications..... | 200 |
| 6.6.2 | Qualitative Assessment Implications..... | 201 |
| 6.7 | FUTURE RESEARCH DIRECTIONS..... | 203 |
| 6.8 | CONCLUSION..... | 204 |
| | BIBLIOGRAPHY..... | 206 |

LIST OF TABLES

| | |
|---|-----|
| Table 1 - Descriptive Results for Full Sample..... | 89 |
| Table 2 - Model Fit Indices for Juvenile Placement and Jail Involvement..... | 92 |
| Table 3 - Justice Systems Maximum Likelihood Estimates..... | 93 |
| Table 4 - Five-Group Demographic Descriptive Results for Justice System Trajectories..... | 98 |
| Table 5 - Five-Group Descriptive Results for Justice System Trajectories: Justice System Involvement..... | 98 |
| Table 6 - Five-Group Descriptive Results for Justice System Trajectories – Child Welfare Variables..... | 100 |
| Table 7 - Five-Group Descriptive Results for Justice System Trajectories – Other System Involvement..... | 101 |
| Table 8 - Percentages of Mental Health Service Use Type by Justice System Group Membership | 109 |
| Table 9 - Percentages of Mental Health Service Intensity Score by Justice System Group Membership..... | 111 |
| Table 10 - Multicollinearity for Justice System Group Membership..... | 119 |
| Table 11 - Multinomial Logistic Regression for Justice System Involvement..... | 120 |
| Table 12 - Model Fit Indices for Foster Home Involvement..... | 130 |
| Table 13 - Foster Home Maximum Likelihood Estimates..... | 131 |
| Table 14 - Five-Group Demographic Descriptive Results for Foster Home Trajectories..... | 134 |
| Table 15 - Five-Group Descriptive Results for Foster Home Trajectories – Justice System Involvement..... | 136 |
| Table 16 - Five-Group Descriptive Results for Foster Home Trajectories – Child Welfare Variables..... | 137 |

| | |
|--|-----|
| Table 17 - Five-Group Descriptive Results for Foster Home Trajectories – Other System Involvement..... | 138 |
| Table 18 - Model Fit Indices for Group Home Involvement..... | 141 |
| Table 19 - Group Home Maximum Likelihood Estimates..... | 142 |
| Table 20 - Five-Group Demographic Descriptive Results for Group Home Trajectories..... | 143 |
| Table 21 - Five-Group Descriptive Results for Group Home Trajectories – Justice System Involvement..... | 145 |
| Table 22 - Five-Group Descriptive Results for Group Home Trajectories – Child Welfare Variables..... | 146 |
| Table 23 - Five-Group Descriptive Results for Group Home Trajectories – Other System Involvement..... | 148 |
| Table 24 - Model Fit Indices for Regular Residential Involvement..... | 152 |
| Table 25 - Regular Residential Maximum Likelihood Estimates..... | 152 |
| Table 26 - Five-Group Demographic Descriptive Results for Regular Residential Trajectories..... | 155 |
| Table 27 - Five-Group Descriptive Results for Regular Residential Trajectories – Justice System Involvement..... | 155 |
| Table 28 - Five-Group Descriptive Results for Regular Residential Trajectories – Child Welfare Variables..... | 157 |
| Table 29 - Five-Group Descriptive Results for Regular Residential Trajectories – Other System Involvement..... | 158 |
| Table 30 - Overall Cross-tabulations..... | 160 |
| Table 31 - Justice System Group X Foster Home Group Cross-tabulation..... | 161 |
| Table 32 - Justice System Group X Group Home Group Cross-tabulation..... | 163 |
| Table 33 - Justice System Group X Regular Residential Group Cross-tabulation..... | 166 |
| Table 34 - Foster Home Group X Group Home Group Cross-tabulation..... | 167 |
| Table 35 - Regular Residential Group X Foster Home Group Cross-tabulation..... | 169 |

| | |
|---|-----|
| Table 36 - Regular Residential Group X Group Home Group Cross-tabulation..... | 170 |
|---|-----|

LIST OF FIGURES

| | |
|--|-----|
| Figure 1 - Trajectories of Justice System Involvement..... | 95 |
| Figure 2 - Trajectories of Foster Home Involvement..... | 132 |
| Figure 3 - Trajectories of Group Home Involvement..... | 143 |
| Figure 4 - Trajectories of Regular Residential Involvement..... | 154 |
| Figure 5 - Foster Home Group X Justice System Group Cross-tabulation..... | 162 |
| Figure 6 - Group Home Group X Justice System Group Cross-tabulation..... | 164 |
| Figure 7 - Regular Residential Group X Justice System Group Cross-tabulation..... | 166 |
| Figure 8 - Foster Home Group X Group Home Group Cross-tabulation..... | 168 |
| Figure 9 - Group Home Group X Justice System Group Cross-tabulation..... | 169 |
| Figure 10 - Regular Residential Group X Justice System Group Cross-tabulation..... | 170 |

PREFACE

This dissertation would not have been possible without the support, insights, patience, and kindness of the people I have been fortunate to know in my life. First, is my dissertation advisor and mentor, Jeff Shook, who has been with me every step of the way. It is not an understatement to say that my life has been forever changed because of him, and I am indebted to him for his constant encouragement, understanding, and willingness to take the time to push me outside of my comfort zone. He has taught me so much and influenced me in countless ways, from discovering new ways of thinking about social issues, to realizing how much I want to pursue an academic research career in social work, to taking the time and space to relax (or try to). My dissertation committee members also were a source of continued guidance, and their enthusiasm and willingness to provide feedback cannot go unrecognized: Sara Goodkind, for the thoughtful input and attention to detail in this study, as well as for being someone to simply be there and be able to talk to; Kevin Kim, for always being available as well as for his statistical expertise combined with the ability to communicate it in a way that made it accessible; and Aaron Mann, for the substantive feedback, and for reminding me to not forget what research implications mean for the real world.

The quantitative data for this dissertation come from a larger study as part of a collaboration with Allegheny County Department of Human Services (DHS), and with funding by the Eden Hall and Pittsburgh Foundations.

I would like to extend my gratitude to the University of Pittsburgh School of Social Work, and all that are a part of the school, especially Dean Larry Davis, Valire Carr Copeland,

Mary Pat El Hattab, Marcia Piel, and Cheryl Bartko. Thank you also to my PhD program colleagues, especially Addie Weaver and Yeonjung Lee.

I would also like to thank Laura Lewis and Peggy Black, my undergraduate professors who instilled a desire to pursue a career in social work early on, and have provided continued support throughout the years. This work would also not be possible without the people I have come into contact with throughout the years, especially clients, who always remind me of the populations I hope to serve by this work.

This dissertation would not be possible without the support from my family and friends. First and foremost, to my parents, George and Cindy Kolivoski, who have instilled in me the importance of education and have sacrificed and provided for me so that I could pursue my dreams. They may not have always understood what I was doing, but they have always been supportive, and I am forever grateful. To the rest of my family, and especially my grandmother, Mary Duda, and Aunt Marie Duda; and my second set of parents, Bob and Nancy Symoski, who have always been there for me in so many ways. To my friend, Sarah Roussos-Karakaian, who has pushed me to do my best through the years and has been there for me even if we are not always geographically close. To Doug, who has been the most adorable inspiration and friend. Finally, to my husband, Joe Symoski, who has been along for the ride with me from the beginning. I am ridiculously lucky to have a partner in life who has provided the encouragement, enthusiasm, optimism, and even criticism as needed. He has also been supportive in the emotional sense as well as the practical day-to-day activities, and I cannot ever thank him enough.

To Mom and Dad

1.0 INTRODUCTION

1.1 THE CHILD WELFARE AND JUSTICE SYSTEMS' CHILDREN AND YOUTH

A substantial number of children and youth placed outside of their home through the child welfare system find themselves in the justice systems on some level during their life course. Youth with child welfare involvement are at about twice the risk of having juvenile court contact than those not involved in child welfare (Stouthamer-Loeber, Loeber, Homish, & Wei, 2001); additionally, they recidivate at higher rates and have a greater likelihood of adult criminality (Kelley, Thornberry, & Smith, 1997; Grogan-Kaylor & Otis, 2003). Moreover, research suggests that out of home placement is a major influence on the trajectory of youth through various systems (Farmer, Southerland, Mustillo, & Burns, 2008) and that those who experience out of home placement are more likely to engage in delinquency than youth who remain in-home (Ryan & Testa, 2005).

Although there is a wide range of factors that contribute to such outcomes, these youth are particularly vulnerable just by being involved in the child welfare system. They already likely come from homes with family disruption or maltreatment, and chronic child maltreatment is a risk factor for delinquency and adverse outcomes as adults (Jonson-Reid, Kohl, & Drake, 2012). Then, once in the child welfare system, they have repeated contacts and relationships with professionals and therefore are under increased surveillance. Also, they may not have family members available to provide support and have their juvenile justice sanction reduced. From the systems themselves, lack of communication and coordination between them often results in

young people left in the middle, without fully adequate services (Scrivner, 2002). The events and experiences of child welfare youth, especially those with out of home placements, are important, as research shows that child welfare services are conceptualized as an intervention to protect from justice system involvement, particularly the juvenile justice system (Jonson-Reid, 2002). Child welfare and justice systems involvement as factors themselves are often unspecified in research (Bright, 2008) as to whether they are helpful or harmful, and under what circumstances. In one study, youth who had child welfare placement outside the home, when compared to in-home interventions, had less delinquency referrals, were less likely to continue after initial offenses, and committed less serious offenses (Lemmon, 2006). However, most research indicates that placement is connected to adverse outcomes and that these youth have a distinct set of experiences within systems that result in a greater need for protection than young people in the general population.

Examining the nature and extent of justice system involvement among subgroups of young people with experiences in the child welfare system has the potential to streamline policies to more effectively help young people. Unfortunately, few studies examine child welfare placement types and outcomes of young people who are also involved in the juvenile justice system (Barth, 2002). Knowing the various system experiences of this population is critical not only because there are direct consequences for the youth in terms of their justice system involvement, but also because of the demand to design effective and efficient programs and practice guidelines to possibly prevent such involvement in the first place. With research specific to understanding justice system experiences of child welfare youth, this empirical basis could advise interventions and inform program tailoring. The more we know about child welfare children and youth, particularly longitudinally, the more likely research can identify risk and

protective factors that can be modified for better outcomes (Postlethwait, Barth, & Guo, 2010) and inform specific placement decisions (Bender, 2010). Knowledge of pertinent factors related to child welfare and justice system involvement would provide valuable information for programs aimed at preventing and intervening on justice system pathways.

Unfortunately, research has not fully addressed the wide range of factors, particularly child welfare experiences, that contribute to these pathways. Although the connection between child welfare and juvenile justice is known in general, what is less known is the influence of specific child welfare interventions (Jonson-Reid, 2004). Additionally, research on the experiences of child welfare children and youth lacks detail of their underlying differences, which remain unrecognized when treating them as a homogenous population, leaving the most at-risk groups yet to be identified. Thus, this study seeks to address how young people who have had experiences in child welfare differ in their juvenile and criminal justice system involvement by examining which groups have similar patterns of involvement, as well as the factors that contribute to these experiences, such as demographics, child welfare experiences, and involvement in other systems.

This dissertation specifically addresses the following questions:

1. How do young people involved in the child welfare system, with experiences in out of home placement, differ with regard to their extent of involvement in the justice system over time?
2. Are there differences related to demographic characteristics, child welfare experiences, and other systems involvement?

In Chapter 2, I provide a historical context of how the child welfare and juvenile justice systems have treated children and youth, connecting past themes with current practice, with the

goal of provoking critical thinking about treatment of young people. I then discuss the relevance of this topic to social work, including implications for practice and policy. Following this, I present three guiding theoretical frameworks that inform an understanding of how child welfare children and youth who also have involvement in the justice systems can be conceptualized, as well as their movement between systems better understood. These theoretical frameworks include Moffitt's (1993) developmental taxonomy and Sampson and Laub's (1993) age-graded life course perspective to apply existing classifications of delinquency and criminality in the general population to those with child welfare system experiences. I then draw on the social-justice framework of Maschi, Hatcher, Schwalbe, and Rosato (2008) to supplement the taxonomic conceptual frameworks by also addressing the role of systems in the experiences and movement of young people with child welfare and justice system involvement. Then, an overview of empirical work on child welfare children, youth, and young adults with involvement in the justice systems is provided, highlighting the role of child welfare placement. Finally, the chapter closes with gaps in current research, including: research on child welfare placement specifically in relationship to justice system involvement, research on the extent of justice system involvement for child welfare youth, and the overall lack of longitudinal studies addressing young people across multiple systems.

Chapter 3 presents the methods for this study, including the research questions, research design, data and variables, and data analysis plan for the trajectory analysis, multinomial logistic regression, and cross-tabulations. Data are drawn from a larger study of a birth cohort of young people with child welfare involvement in Allegheny County, Pennsylvania, with the focus on those with substantial out of home placement experiences. I then define the variables utilized in the study and elaborate on the specific methodologies chosen to address the research questions. I

performed trajectory analysis to examine similar groups and patterns of justice system involvement among the sample. I conducted multinomial logistic regression to address predictors of justice system group membership. I also performed trajectory analysis for three main child welfare placement types—foster homes, group homes, and regular residential facilities—in order to provide detail on placement experiences. Finally, the justice system trajectories are cross-tabulated with each of the three placement trajectories, as well as each other, to explore the relationships between justice system group membership and groupings by child welfare placement experiences.

I divide the results from the analysis into two chapters. First, Chapter 4 discusses the results for the justice system trajectories, justice system trajectory group descriptive information, and multinomial logistic regression. Then, Chapter 5 provides the results from the second part of the data analysis, for the child welfare placement trajectories and trajectory cross-tabulations for the justice system trajectories with the three main child welfare placement type trajectories.

Chapter 6 discusses the broader meaning of the results in detail and within the context of the theoretical frameworks that informed this study, as well as consideration of the wider context of these findings, particularly in regard to race. I also present the strengths and limitations of this dissertation. Finally, I end this study with discussing the impacts for programs and policy, highlighting two potential interventions that could be developed, and providing future directions for social work research and practice based on the findings.

2.0 HISTORICAL CONTEXT, CONCEPTUAL FRAMEWORKS, AND LITERATURE REVIEW

The first part of this chapter begins by highlighting some of the history in how systems have treated youth involved in the child welfare and justice systems in order to provide a context and understanding of how such a history influences conceptualization of their treatment in the present day. Next, I discuss the relevance to current social work practice and policy. Then, I present relevant theoretical frameworks to understand the potential classifications of these youth as well as addressing the role that systems may play. The last section of this chapter explores empirical findings in the current research, emphasizes the numerous gaps in knowledge that remain, and outlines how this study addressed current limitations in existing research.

2.1 HISTORICAL CONTEXT

To develop an understanding of the current situation of treating young people in the child welfare and justice systems today, it is important to know the past to act as a frame of reference for present-day dialogue and understanding. The main purpose of this section is not only to provide a sense of history, but moreover to encourage a critical perspective of the history of how youth with child welfare and the justice systems are treated, and how this impacts thinking and dialogue of the issues in the present. When information is available, I focus on the unique experiences of those with out of home placement histories specifically.

2.1.1 Historical Context of Child Welfare and Justice Systems Youth

Amid benevolent intentions for the care and control of children and youth in the child welfare and juvenile justice systems, these systems also have a history of struggling with ways to

effectively address their needs. These ways and conceptualizations have shifted throughout history.

In medieval society, the concept of childhood did not exist; rather, children were thought of as miniature adults (Aries, 1962). Even in the early history of the United States, the concept of childhood was primarily absent. On the whole, children were viewed mainly as property and useful for cheap labor (Nunn, 2002). While concepts of childhood gradually changed for white youth, shifting ideas were not the reality for African-American youth, as slavery was still present. Slavery forced African-American families apart. In the aftermath of slavery, as parents attempted to locate their children, ex-slave owners tried to create a commodity out of African/African-American children by having biological parents buy them back (King, 1995). Described by one scholar as a “stolen childhood,” black children were forced into labor at a young age and separated from family (King, 1995).

After the Civil War, macro forces influenced treatment of young people; these changes included industrialization and increases in manufacturing; new waves of immigrants; and urbanization of cities (Grossberg, 2002). Children in families most affected by these macro changes—working class immigrants in increasingly crowded cities—were particularly vulnerable to delinquency and antisocial behaviors. Social reformers felt the need to provide action. Early interventions thus focused on poor, white youth in cities and the solution for their social ills was out of home placement, either in a reformatory or institution. By the late nineteenth century, however, Charles Loring Brace convinced social reformers that the best response for these youth was “placing out,” or sending young people away from the cities to live and work on rural family farms. These methods were used to treat both dependent and delinquent youth at the time. More recently, scholars have asserted less-than-benevolent purposes for these

methods, pointing toward the desire by reformers to control the “dangerous classes” of unsupervised, low-income young people (Platt, 1977; Trattner, 1998).

Up until the twentieth century, no formal, unified system existed for handling delinquent behavior, as such children and youth were tried and confined with adults. However, children and youth were increasingly seen as less culpable for their behavior as well as more amenable to rehabilitative intervention. Ideas spread about creating a separate justice system, away from adults, that would focus on treatment and not punishment, and on the needs of the offender rather than the offending behavior.

This idea of childhood as a separate entity gradually grew, meaning children and youth should not be viewed the same as adults or treated as such (Harvey, 1989; Stephens, 1995). The Progressive movement, comprised primarily of middle-class advocates who pushed for an increased role of the government in social and economic reform, was in full swing. Part of their agenda included acknowledging the emerging idea of differences between adults and children. Although prior pockets of reform for the formal care and control of children and youth occurred in early America, it was not until the founding of the first juvenile court in Cook County in 1899 that ideas of children needing special and different treatment from adults were first legitimated. In part due to the push of the Progressive “child savers,” the establishment of a separate court aimed at addressing the specific needs of children and youth represented an overall shift in handling youths’ cases—which included forming special programs for dependent, neglected, and delinquent youth (Platt, 1977). Indeed, the juvenile court “was a product of its time, created at a moment when the concept of childhood was changing dramatically due to economic trends and new theories of child development” (Edelman, 2002, p. 310). One example of the specific historical context of the juvenile court is that treatment of young people in the early juvenile

justice system overwhelmingly only refers to the treatment of white youth. The needs of African-American youth and youth in other minority racial groups were not on the whole taken into consideration, and when they were, they would often receive harsher punishments than white youth (Trattner, 1998).

Other shifts that affected views of young people included the gradual increase in the expected lifespan (Kett, 1977), and the publication of G. Stanley Hall's *Adolescence* (1904), which first categorized and described this "new" life stage in between childhood and adulthood. With people living longer, adolescence developed into a time between being a child and being an adult that brought with it new challenges of addressing young people's needs to help them develop into productive adults.

The overlap of the child welfare and justice systems was apparent from the start, and resulting ambiguities left young people with a range of system experiences. The court held itself responsible for dependent (including both abused and neglected) and delinquent children and youth, thus fusing together ideas regarding child welfare and the control of criminal behavior (Tanenhaus, 2004). From the beginning, though, confusion existed over which category (or both) a child's situation would fall under. Allegations regarding delinquency could easily be perceived as a result of abuse or neglect, and thus tensions occurred over which system could best serve a youth (Schlossman, 1977). Regardless, early reformers asserted that one juvenile court could effectively serve dependent and delinquent youth, as the dominant view of the era was that dependency was at the heart of delinquency (Tanenhaus, 2004).

During this time, the pervading belief was that a government role in the private lives of those considered as maltreated and delinquent children and youth was positive, although this was not always the reality. Progressive reformers used the doctrine of *parens patriae*, which provides

the power of the state to intervene in the lives of families, to open the door to regulation and oversight, particularly of the poor (Schlossman, 1977). Scholars have critiqued the benevolent intentions asserted by the child savers in that children were supplied in order to fulfill the demand for the new facilities and court system, by positing that “the lines between neglected and delinquent children were intentionally blurred in order to facilitate their committal to reformatories” (Schlossman, 1977, p. 210). Since the beginning of formal ways of treating young people in need in the United States, scholars began to question the compassionate intentions that “child-serving” systems operated under, including Sheldon and Eleanor Glueck’s (1934) book, *One Thousand Juvenile Delinquents: Their Treatment by Court and Clinic*, raising the issue of involvement as more detrimental than beneficial both to the young person as well as the broader community (Trattner, 1998).

Changes in the 1960s and 1970s had good intentions, but resulted in a number of problematic unintended consequences as well. Amendments in 1962 to the Social Security Act expanded child welfare services to a greater number of families, but also required states to formally identify those who would need removal from the home. Thus, in the latter half of the 1960s, increasing numbers of children were put in out of home placements (O’Neill, Murray & Gesiriech, 2004) in an effort to err on the side of safety of children. In regards to youth in the juvenile justice system, reports in the 1970s found that although the court largely served a diversionary purpose for “nuisance” cases, reports also showed that young people were improperly being held in out of home, institutional placements that had an effect of increasing problem behaviors (Vinter, Newcomb, & Kish, 1976).

In addition, private agencies started to increase, which left those who were not able to afford such services without choice in the public sector. A divergence occurred between private

and public services, with private services able to filter out and choose clients, usually based on ability to pay for services choosing clients who had less-complicated issues (Emerson, 2009). Those with more resources, then, sought services in the private sector: wealthy families could afford them, and even middle-class families followed suit with the help of various housing and education subsidies (Pilotti, 1999). On the other hand, poor families, typically more likely under the surveillance of child welfare authorities in the first place, often ended up in public systems. One responsibility of child welfare officials is to make decisions about which families receive formal system involvement, which can lead to services receipt (Pilotti, 1999). As Woodhouse (2007, p. 528) notes: “Dependency court is the narrow gateway through which families must pass to access services, and the passport is an adjudication or shelter order.” Despite perceived access to services, quality and choice remain unchecked, and public systems, then “function largely as repositories for the rejected” (Emerson, 2009, p. 58).

The history of treatment of children and youth has led to critiques of the system and how we handle young people today; specifically, that systems legitimize their stay in them in order to maintain their existence. Unlike other systems, the court has the distinct ability to use its power for families to acquiesce to certain services and systems involvement, even if uninvited and unwanted by the families themselves (Emerson, 2009). The court can use its power to minimally provide for children and youth, such as by placing them in out of home care, with little oversight; also, this coercive power is supported by other systems, such as mental health and drug and alcohol, in which relationships are exchanged that provide the agencies with a steady stream of clients (Emerson, 2009). Indeed, such systems rely on referrals from others in order to gain access to and serve clients (Jonson-Reid, 2011).

An overview of the history of how systems have treated children and youth with

involvement in the child welfare system as well as experience in the justice systems is important for the conceptualization of their unique situation. Their history of treatment within systems reinforces the critical nature of addressing their needs. Without examining the broader forces at play on the individual, blame for their plight might be placed solely on the victim as he or she bounces around from placement to placement, service to service, resulting in one to conclude the problem *must* lie within the individual as evidenced by their lengthy record of system involvement.

The child welfare and juvenile justice system often serve the same youth. However, since the founding of the juvenile court, they have always been separate systems and with separate missions, although with blurred boundaries between them. While this separation has many benefits, part of the carryover into today is that youth may “fall between the legal system’s proverbial cracks” (Scrivner, 2002, p. 149) and not have their needs fully met by either system. The rationale for the government’s role in the private lives of families, legitimated by the doctrine of *parens patriae*, results in our natural inclination to assume that these programs are “good” and are serving youth well, but without clear data to demonstrate this, the answers are unclear. Given that out of home placement is a major life disruption in a young person’s life, these evaluations are particularly crucial, and current research does not fully address child welfare placement. Also, with increases in privatization of services, particularly used by the economically advantaged, we need to make sure youth served by public systems are not getting left behind in terms of negative outcomes. A look at the historical context shows that child welfare is a particularly powerful public system that can greatly influence a family’s life and can make referrals to other systems that families often are required to comply with—for better or worse. Attention to how these systems influence young people is important not only from a

historical perspective, but questions need to be raised about the carryover into today as well.

2.2 RELEVANCE TO SOCIAL WORK

The often-competing missions and other tensions between the child welfare and juvenile justice systems in their proper handling of young people with experiences in both is a critical issue to the social work profession. Social work plays a historical role in the founding of the juvenile court and in the protection of children. Julia Lathrop, once a social reformer at Hull House, later worked with the Children's Bureau and helped found the first juvenile court in Chicago in 1899. Many other "child savers" during the early period of children's rights would likely be defined as social workers in the present day. Additionally, social work's declining role in areas of juvenile and criminal justice speak to the need for involvement in these issues, as social work provides a unique understanding of how larger forces impact individual behavior. Thus, the welfare of children—either through protecting them from abuse or neglect or addressing juvenile delinquency—historically is at the core of social work.

The relevance of this issue to current social work is primarily through what the profession can offer to young people who are involved in multiple systems. With the increasing specialization of professions, only focusing on one system (child welfare or justice system) does a disservice to youth and cannot fully address young people in both systems' needs. Social work's acknowledgement of person-in-environment (Bronfenbrenner, 1977) is a lens with which to view youth in a broader context. Social work's interdisciplinary nature allows for openness to a variety of additional beneficial theoretical frameworks. Further, social work is known as an applied profession focused on broad social change; it is the profession known for critical thinking about social problems, challenging structural forces, and advocating for vulnerable populations, which are particularly needed for young people in multiple systems. Combining the

use of a variety of disciplines, the ability to take into consideration a holistic perspective, and an action-oriented approach contribute to the relevance of social work's involvement in young people with child welfare experiences who also spend time in the justice systems.

2.2.1 Social Work Practice and Policy Implications

Important implications exist for social work practice regarding young people with multiple system involvement. Practitioners need to recognize that youth in both the child welfare and justice systems comprise an especially vulnerable population, as they are victims not only from child maltreatment but also potentially from systems themselves. In accordance with professional ethics, the practitioner can advocate on a youth's behalf for fair treatment within the systems, act as a liaison across them, and recognize and encourage appropriate services. Social workers' perspectives from micro, mezzo, and macro levels raise awareness of the problem and practitioners have the power to act as a bridge between different service systems. Practitioners ground their work in an evidence base to best address the needs of their clients, thus the paucity of research on young people in multiple systems has real world utility.

Explicit policies to address the needs of young people who experience multiple systems are sparse on all levels. Federal policies—as part of the Child Abuse Prevention and Treatment Act (CAPTA) (PL 93-247) as well as the Juvenile Justice and Delinquency Prevention Act (JJDP) (107-23)—focus more on the need for data collection and analysis than specific procedures and protocols for these youth. On a smaller level, currently few local jurisdictions have explicit policies for how to address the needs of young people who have experiences in both the child welfare and justice systems (Wiig, 2012). Those that do have a policy range in their approach to the issue and cover various aspects of intervention and prevention. Examples of programs include Colorado's use of Multi-disciplinary Teams (MDT's) (Boylan, 2012),

maintaining the same judge for a family's duration of involvement in systems (Byrne, 2012), and a program specifically designed to reduce the juvenile detention placements of young people in foster care (Conger & Ross, 2006). While local-based policies have the strength of being tailored to specific needs within a jurisdiction, the disadvantage is that not all areas have implemented effective programs and protocols for ensuring the needs of child welfare and justice systems youth are addressed.

The next section presents the guiding theoretical frameworks for this study, and similarly echoes the overall lack of attention on systems in how the issues of children and youth in the child welfare and justice systems are viewed.

2.3 THEORETICAL FRAMEWORKS

Theories that explain the experiences and movement of children and youth across the child welfare and justice systems are useful in developing a comprehensive understanding of the issue, although they are not without limitation. While much of the existing research describes this population on a general level, we have yet to develop a full understanding of explanations for this within and across-systems movement that consider experiences within the system such as out of home placement, specific groups within the larger population, and the nature of involvement while in the justice systems. Given the underdevelopment in this area, it is not surprising that no one theory explains the experiences of these youth and young adults, particularly in describing the role of systems.

There are different reasons for this lack of a singular, specific theory to draw upon. First, although there are different taxonomies that attempt to describe categories of youth who are delinquent, these are used to describe general population samples, and therefore are not exclusive to those with child welfare involvement, whose experiences may be different. Another gap is the

lack of connection explicitly made between involvement in both the juvenile and criminal justice systems in theoretical frameworks, despite the importance of addressing this issue across the lifespan. Also, there are theories of delinquency that consider maltreatment, but these tend to overlook the role of systems. Often they only address initial delinquency, and do not necessarily explicitly acknowledge further system involvement. Indeed, the movement of youth from child welfare to juvenile and criminal justice is a multifaceted issue. Thus, first I discuss a current theoretical limitation in explaining justice system involvement of child welfare youth and young people, followed by presenting a section that draws from a variety of relevant theoretical frameworks that each contribute to a more comprehensive understanding of this complex issue.

Although there are different taxonomies that attempt to describe categories of youth who are delinquent, these are used to describe general population samples, and do not focus exclusively on those with child welfare involvement, whose experiences are likely different. Categorizing a large population like young people with child welfare involvement who end up in the justice systems is necessary to recognize their unique backgrounds and experiences. Unfortunately, no one, specific theoretical framework exists to specifically guide research in this area. Theoretical frameworks from the general population, though, do have utility for the young people of focus in this study. Sampson and Laubs' (1993) and Moffitt's (1993) theoretical frameworks assert unique subgroups can be identified within a larger population or sample. They provide a theoretical foundation regarding the different pathways and of individuals and their criminal careers across the lifespan (see: Blumstein, Cohen, Roth, & Visser, 1986; Loeber & Hay, 1994; Patterson & Yoerger, 1993). Such theoretical frameworks do not address child welfare involvement exclusively, but an implied application is inherent in these frameworks due to its classification of young people with similar behaviors and experiences. Piquero and Buka

(2002, p. 260) present the major tenets of these theories: “(1) many individuals will never commit a crime (much less be arrested for a crime), (2) some individuals will commit one or two crimes and desist, and (3) a small subset will continue offending frequently over time.” Moffitt’s (1993) taxonomy and its emphasis on the categorization of youths’ delinquency experiences is applicable to providing a foundation for categorizing and discussing the within-group differences in justice system experiences that likely exist for child welfare youth.

2.3.1 Moffitt’s Developmental Taxonomy

Moffitt’s (1993) developmental taxonomy emphasizes timing and duration as factors in classifying offenders’ antisocial behavior during their adolescent years and into early adulthood. Although developed for the general adolescent population, it is widely used in studies of general population samples of young people and applicability to child welfare youth is evident as the same within-group heterogeneity is likely to exist.

Moffitt presents three different groups that youth fall into in regards to delinquency: adolescent-limited offenders, life-course persistent offenders, and abstainers. The first group of youth that Moffitt defines, “adolescent-limited” youth, are distinct because of what Moffitt labels “discontinuity” between their lack of antisocial behavior in childhood, the unlikelihood of it as an adult, but the display of such behaviors during adolescence. Discontinuity also applies across situations, in which an adolescent-limited youth may regularly attend school and follow its rules, yet engage in substance use with peers after school or on the weekends (Moffitt, 1993). The adolescent-limited youth is motivated by a desire to be considered mature, particularly when one has not yet physically matured, and thus learns antisocial behavior from those around him or her as a way of asserting adult-like “maturity” (Moffitt, 1993). This can be particularly relevant for a youth with experience in the child welfare system, as multiple placements and disruptions in

one's life may connect to a desire to fit in with surrounding peers and to assert one as being more "adult." Additionally, Moffitt delineates that these youth also have either one or all of the following at play that result in antisocial behavior only during adolescence: late onset of puberty, prosocial role models, limited environmental opportunities for antisocial behavior, and a lack of personality characteristics such as social skills (Moffitt, 1993). For a child welfare youth, then, such extrinsic factors that may play a role in one's outcomes include positive role models in the forms of foster parents, caseworkers, or supportive placement environments.

The second group of youth, as defined by Moffitt, consists of "life-course persistent" offenders; these are a small group of youth who engage in antisocial behavior at every time point in life. It is this continuity of behavior over the life course that distinguishes them, as they display gradually escalating deviance, such as hitting and biting others as a child, stealing cars during adolescence, and committing robberies as an adult (Moffitt, 1993). Evidence of adult antisocial behavior is nearly always rooted in some type of childhood or adolescent antisocial actions. Exhibiting such behavior at early ages, however, does not necessarily place a youth on an irreversible trajectory, as Moffitt acknowledges that the majority of children and youth who demonstrate antisocial behavior as a child do not carry such actions over into adulthood (Robins, 1978; as cited in Moffitt, 1993). One cause of misbehavior, according to Moffitt, is neuropsychological deficits at birth that influence factors such as temperament, impulsivity, or cognitive abilities. The social environment surrounding an infant also plays a role, although infants and children who possess the aforementioned characteristics, and thus who need the most attention, are too often born into damaging and unsupportive environments. Although consisting of a small portion of the general population (less than 10%), they are the group that is most likely to engage in a wide range of deviant and criminal behaviors regardless of their age (Moffitt,

1993).

The third group, those labeled “abstainers,” is described the least in the developmental taxonomy. Moffitt (1993) develops their description based largely on contrasts with the adolescent-limited group, as research does not tend to address the abstainers’ behavior patterns because they do not engage in delinquency. Two characteristics distinguish them from the other groups. First, abstainers do not experience the same maturity gap, referring to the space between biological development and social maturity, which the adolescent-limited group does (Moffitt, 1993). The abstainers likely have a later onset of puberty or are more likely required to take on adult roles earlier in life. This latter explanation has applicability to child welfare youth, as they are more likely to assume adult roles than young people in the general population due to situations such as parental absence due to drug addiction, parental incarceration, or abuse and therefore may need to take care of siblings as well as themselves. That one would have to grow up and assume adult roles before reaching an age of majority, may have preventative measures for delinquency. The second characteristic that Moffitt (1993) discusses to differentiate abstainers from those that are adolescent-limited concerns access to and influence of antisocial role models. Abstainers likely have fewer opportunities to associate and form relationships with those prone to delinquency (Moffitt, 1993). This applies to child welfare youth in that young people who experience out of home child welfare placement may be placed in home-like settings in which they can form long-term, trusting relationships with adults and may also have less access to deviant peer influences.

Despite the lack of explicit attention to the role of systems in affecting the lives of youth, Moffitt’s taxonomy is a useful guiding theoretical framework in understanding the within-group differences of child welfare youth and justice systems involvement. First, given that this

framework acknowledges outcomes throughout the life course, from adolescent to adult, there is applicability to studying a child welfare population across the juvenile and criminal justice systems. Indeed, with increasing specialization, too often the focus has been on adolescents as a category, and adults as an area of study, but not a bridge between the two (Sampson & Laub, 1993). The age range used for this empirical study is somewhat limited in that the highest adult age used is 22 years, however, this still allows for a four-year span of time for adult justice system involvement. Also, while the larger study from which this specific's sample is derived contains data on youth into older adult ages, but not everyone in the larger study has achieved the same age, thus the age 22 cutoffs allowed for equal time at-risk for justice system involvement. Similarly, "young adulthood" has recently emerged in theoretical work as its own life stage worthy of further examination (Arnett, 2000). As Moffitt (1993) notes: "Preoccupied with explaining the origins of crime, most theories of delinquency have neglected to address the massive shift in the prevalence of criminal involvement between adolescence and adulthood" (p. 20). By examining early adulthood justice system involvement along with adolescent measures, Moffitt's developmental taxonomy provides a foundation for understanding variations in justice system involvement.

Second, although not addressed in detail here, Moffitt's taxonomy acknowledges that infants are not born on an equal playing field, but rather that some are especially vulnerable. This is particularly relevant for children and youth in the child welfare system who—simply by their involvement in child welfare—are considered vulnerable. For example, children with different life experiences are likely to have varying reactions to their environment, as some are more likely to interpret behavior and surroundings as harmful to them, and act out accordingly (Moffitt, 1993). For children and youth with involvement in the child welfare system, especially

those in placement outside of the home, they may display reactions intended to be protective that could be interpreted as “acting out.”

Moffitt’s developmental taxonomy has other benefits to this study as well. Moffitt helps to fill in the much-needed gap of connections between juvenile and criminal justice system involvement by presenting some of the prosocial factors that may contribute to desisting from crime as one develops from an adolescent into an adult. Finally, in acknowledging the adolescent-limited group, Moffitt’s taxonomy acknowledges the within-adolescence age differences that can occur—particularly that delinquency varies by age even within the category of adolescence.

2.3.2 The Age-Graded Life-Course Perspective

Another taxonomy-type of theoretical framework that is important for informing research on youth and young people with child welfare involvement who end up in the justice systems is the age-graded life-course perspective. The work of Sampson and Laub (1993) is particularly useful, as this perspective acknowledges the longitudinal nature of studying changes in justice systems involvement throughout people’s lives, thus encompassing a longer adolescent-to-adult time period over the lifespan than Moffitt’s taxonomy. Similar to Moffitt’s work, though, Sampson and Laub acknowledge the role of individual as well as social/environmental factors in both the static and changing nature of events throughout the life course. Three concepts are central to an understanding of changes in antisocial behavior over the life course: trajectories, transitions, and turning points. A trajectory is defined as “a pathway or line of development over the life span” (Sampson & Laub, 1993, p. 6). These are long-term patterns that are interspersed with transitions. Transitions, as defined by Sampson and Laub, are “marked by life events... that are embedded in trajectories and evolve over shorter life spans” (Elder, 1986; Sampson & Laub,

1993, p. 6). The overlap between trajectories and transitions may develop into turning points that cause a shift in one's life course. A turning point may help take a youth away from a life of crime and on a path toward making a positive contribution to society. Turning points refer not only to an individual's reactions to life events that can alter one's course, but also systems and institutions that can come into influence as well. Examples include entering the military, gaining meaningful employment, or developing prosocial relationships that influence an individual enough to not become involved in delinquency or crime.

Sampson and Laub's (1993) work provides additional benefits when used as an informing theoretical framework for this study. As previously mentioned, encompassing a wide range of the lifespan, from adolescent to adult, is particularly important as this study addresses justice systems involvement as defined by both the juvenile and adult systems. The scholars' overall discussion of the age-graded life-course perspective contains explicit connections between childhood experiences and adult outcomes that, again, are relevant when using a sample that contains both adolescent and young adult factors. Within this consideration of the lifespan, Sampson and Laub (1993) also recognize the within-group differences that occur based on age, and even within age groups. Finally, although the use of the term "turning points" is somewhat ambiguous, it does allow for acknowledgement within a taxonomic framework of the role that systems and other external factors play in the outcomes of youth and young adults with a history of child welfare involvement.

I also want to provide clarification when applying these and other theoretical frameworks when studying child welfare and justice system young people. Many theories that connect child maltreatment to delinquency do so in a way that does not explicitly acknowledge the role or multidirectional nature of justice system involvement. The majority of studies tend to focus on

connecting “maltreatment” and “delinquency.” While maltreatment implies child welfare involvement, and delinquency implies involvement in the juvenile justice system, the terms are not interchangeable, as child maltreatment does not automatically mean definitive involvement in the child welfare system, and the same with delinquency and the juvenile justice system. Many factors, such as race, play a role in whether behaviors such as maltreatment or delinquency result in formal case processing. A substantial amount of other studies use the term “antisocial” or “externalizing” behavior as an outcome rather than delinquency or juvenile justice system involvement (e. g., Kim, 2008). The limitation here is that inferences cannot be made about the important role of the systems themselves in a young person’s outcomes. Moreover, by doing this the focus for change lies in the young person who is exhibiting the behavior, and not on the role that the larger, purportedly benevolent system may play in contributing to negative outcomes such as by providing for a youth in a low-quality group home setting. Finally, the current state of the research and discourse is on predictors and factors in initial delinquency (or justice systems involvement); by doing this, the patterns of behavior over time regarding system involvement are overlooked.

2.3.3 Social-Justice Model

Since one cannot overlook the role of systems when considering theoretical frameworks regarding young people and their involvement in child welfare and juvenile justice, an additional theoretical framework informs this study. Unfortunately, few theoretical frameworks specifically address the longitudinal, concurrent, and sequential nature of the movement of child welfare youth into other systems, let alone the justice systems. When it comes to services and contact within and between various systems, clear theoretical frameworks are lacking (Jonson-Reid, 2011). The social-justice systems model of Maschi, Hatcher, Schwalbe, and Rosato (2008),

however, can be useful as a guiding foundational framework for understanding the movement of youth within and across systems on their pathway to the juvenile and criminal justice systems. Described as a “cycle of services,” this model is used to outline the various service sectors that a youth may utilize as he or she has experiences a pathway to the justice systems (Maschi et al., 2008, p. 1383). Although the model has limitations, such as a lack of detail in its specific mechanisms and limited empirical testing, the lack of better theoretical models, combined with its utility as a springboard for future theoretical work on child welfare youth in the justice systems, is important.

The social-justice systems model specifically identifies various factors that contribute to involvement in the justice systems. Maschi and colleagues (2008) categorize these factors into two groups: individual factors and social/environmental factors. Drawing on a comprehensive review of previous empirical studies, the individual factors that are asserted to contribute to justice and other systems’ involvement include: being a person of color, socioeconomic status, sex (male), past experiences of trauma, and issues pertaining to mental health and alcohol and/or drugs (Maschi et al., 2008). In addition to these individual-level variables, social/environmental contributors to justice systems involvement are outlined as well. These include having service needs that were not previously met, as well as service involvement in other systems, including the child welfare, mental health, and drug and alcohol systems (Maschi, et al., 2008). Both individual as well as social/environmental factors affect both the need for system involvement and the actual involvement itself. Such factors also contribute to the length of time a youth spends in various systems. This is followed by the eventual exit from such systems, although Maschi and colleagues (2008) point out that through a “feedback loop,” future system involvement may occur.

At the center of the social-justice model is the average youth, who is presented in close proximity to typical groups who meet the youth's needs, such as one's family, social networks, and religion. As Maschi and colleagues (2008) assert, when such groups are properly working for the youth and vice versa, interactions with other systems are limited to classification of services that cast a wide net such as the education system and the requirements of school attendance (Garland, Hough, Landsverk, & Brown, 2001). When issues do arise that threaten the functionality of the system, either on the individual or social/environmental level, then other systems are enacted to address them. System involvement can occur concurrently or back-to-back, and is categorized on a continuum from those considered the least restrictive to the most restrictive (Maschi et al., 2008). The social-justice model recognizes that not all subgroups of youth have the same accessibility to exceptional services care and education. Instead, one particular subgroup, comprised of youth of color and youth from low socioeconomic backgrounds, is more likely to be involved in "high risk" services, such as the child welfare and juvenile justice systems (Maschi et al., 2008, p. 1382). Finally, just because a young person is involved in one or more systems, does not indicate that there are also unmet service needs in other systems as well (Maschi et al., 2008).

The social-justice model provides a sufficient guiding framework for research on the movement of youth from child welfare and into the juvenile and criminal justice systems. First, the model acknowledges individual as well as larger, environmental factors on children and youth in systems. Another advantage is that the discussion of the model is specific in delineating what these factors are, thus making it easier to design a quantitative study informed by it. The social-justice model also recognizes the variety of systems that a young person is involved in, and not just the child welfare or justice systems. Its multifaceted structure also acknowledges

that a young person may be concurrently or continuously involved in multiple systems. The use of a “feedback loop,” although not presented in detail, is useful as it acknowledges justice system involvement beyond the initial stage. Most importantly for this study, the social-justice model recognizes groups within the larger population of children and youth, which they present in terms of patterns that a youth may follow through systems. However, one limitation includes that it is not very detailed in presenting a young person’s movement across systems or within systems. Although limited in empirical testing, Maschi and colleagues’ (2008) social-justice model itself is based on a comprehensive review of empirical literature on service pathways of youth and therefore is a valuable guiding theoretical framework to this study.

Given the theoretical frameworks that guide thinking in this area, research is beginning to explicitly address the experiences of young people with involvement in the child welfare and justice systems. The next section presents the state of the empirical research on this population, starting with general comparisons to non-system counterparts to establish that there are indeed differences between the two, and then shifting to specific findings on within-group variations among the child welfare population. While previous work demonstrates the greater likelihood of children and youth from the child welfare system to enter into the justice systems, it is apparent that exactly how young people differ is unclear, as well as the role that systems play in justice system involvement. By reviewing the existing research on child welfare youth in the justice systems, a comprehensive overview provides the foundation for the section that addresses explicit gaps in knowledge relating to the details of justice system involvement. These gaps are presented after discussion of the empirical studies.

2.4 EMPIRICAL FINDINGS ON YOUTH INVOLVED IN THE CHILD WELFARE AND JUSTICE SYSTEMS

The current state of existing empirical research is that when compared to those in the

general population, young people with child welfare experience have a greater chance of juvenile justice system involvement than the general population (Wiebush, Freitag, & Baird, 2001; Stouthamer-Loeber et al., 2001; Courtney, Dworsky, Lee, & Raap, 2010). In a study of school-age children who received at least one child protective services (CPS) investigation, and were tracked for delinquency between the ages of 11 and 17, the rate of entry into the juvenile justice system was twice as high for those who received the CPS report as those whose cases were not opened for services (Jonson-Reid & Barth, 2000a). In regard to this influence carrying over into young adulthood, Mersky and Topitzes (2010) used prospective longitudinal data for a sample of children-turned-young adults in Chicago and found that the maltreated group, as measured by petitions to juvenile court and referrals for child welfare services, was more likely to be arrested, and significantly more likely to have experienced incarceration by age 24. This equals a 127% increase between the two groups (Mersky & Topitzes, 2010). Other research similarly has upheld this finding, particularly when controlling for demographic variables (English, Widom, & Brandford, 2002; Topitzes, 2006).

An effect on justice system outcomes carries over into other dimensions of system involvement as well. Child welfare youth are more likely to be detained for formal case processing within the juvenile justice system (Conger & Ross, 2006) and are more likely to receive an out of home placement sanction rather than probation (Ryan, Herz, Hernandez, & Marshall, 2007) when compared to non-system counterparts. Out of home placement is a major event in a child or youth's life, causing a fundamental disruption in relationships with family, friends, and possibly school, and therefore worth further exploration. While comparisons with the general population are important for describing the vulnerability of child welfare children and youth, they do not describe in detail the specific experiences and patterns of justice system

outcomes and highlight the more at-risk groups such as those who have experienced out of home placement. Further, in general population samples, studies demonstrate that delinquent and criminal behaviors vary over time in regards to the duration, frequency, and chronology of offending behavior (Piquero, 2008), but research has yet to comprehensively provide this same level of in-depth analysis to those who spent time in the child welfare system. The next section discusses the current state of the research regarding within-group analyses of young people with child welfare and justice systems experiences, especially with placement outside of the home.

2.4.1 Within-Group Child Welfare Differences

Studies that focus on comparisons between child welfare youth and general population samples are important, but also miss the hidden differences within the child welfare population who experience the most life disruption: those who experience placement outside of the home. Little is known about the specific groups of child welfare-involved youth who have other types and varying degrees of child welfare involvement, and then end up in the justice systems (Ryan, Hernandez, & Herz, 2007), although at least one study indicates that young people who experience out of home placement are two times as likely to engage in delinquency than those who remain in-home (Ryan & Testa, 2005). Such detailed information on young people's experiences is particularly crucial to policymakers who mostly rely on studies that show that children and youth who have been in the child welfare system are more likely to end up in the justice systems, but without specific knowledge of who or how young people are affected, are left without specific policy guidance (Verrecchia, Fetzer, Lemmon, & Austin, 2011).

2.4.2 The Role of Placement in Child Welfare and the Justice Systems

One largely unaddressed gap in research surrounds the experiences within the child welfare system as related to youth and young adults' justice system outcomes. Placement refers

to when a child or youth in the child welfare system is removed from his or her home and then placed in either a family-like setting, such as foster care, or an institutional setting, such as group homes. The term “congregate care” refers to this broad category of child welfare placements that have this more institutional-like setting, which in this study are group home and regular residential placement facilities. Research on aspects of delinquency and juvenile justice system involvement has compared young people in any type of out of home placement to those who stayed in-home (Doyle, 2007), and expanded on this to examine young people in group homes compared to those with foster home experiences (Ryan et al., 2008), but more research is needed on child welfare placement types specifically.

Placement is important to understand, but research has not yet firmly established whether it is helpful or harmful in terms of justice system outcomes. Most studies show either no effect or a detrimental effect of out of home placement on subsequent justice system involvement (e.g., Ryan & Testa, 2005). Early studies on placement and delinquent outcomes found no effect between child welfare experiences and subsequent juvenile justice system involvement (Leitenberg, Burchard, Healy, & Fuller, 1981; Runyan & Gould, 1985). Runyan and Gould (1985) compared youth who spent three or more years in out of home placement to youth who remained in-home or were removed for a shorter amount of time. No significant differences were found on delinquency during adolescence, although a relationship was found between a higher number of placements and convictions (Runyan & Gould, 1985). One exception to this used a sample of low-income, African-American young males and found that out of home placement significantly lessened the effects of recurrent maltreatment on all delinquency measures, and specifically that out of home placement was beneficial by reducing the odds of a referral for delinquency by four times (Lemmon, 2006).

However, most research points to a complex role of placement. In a comprehensive study, McMahon and Clay-Warner (2002) report that removal of children and youth from their homes decreased the likelihood of juvenile and adult arrests in some situations, and was associated with increases in others. When comparing maltreated children who experienced a family separation and who either remained in-home or were placed outside of the home, those who were removed were nearly twice as likely to experience arrest as an adult. The authors explain the findings by asserting that removal of a child from his or her home may add to the instability in one's life by decreasing familiar social supports (McMahon & Clay-Warner, 2002). Doyle (2007) found that when children in the child welfare system whose cases seemed to be at the level of severity to be on the border of removal from home versus remaining in-home, those who remained in-home had better outcomes. Exploring the role of placement one step further, Herz and colleagues examined youths' progress in placement, and found that only 10% of youth were considered as making progress in their placements when they were arrested (Herz, Ryan, & Bilchik, 2010). Out of home placement is therefore a key but multifaceted factor in the child welfare to justice system involvement pathway that needs further exploration.

Evidence suggests child welfare services as an intervention itself, including aspects of placement, is an important component in understanding the connection between child welfare and justice system involvement (Bender, 2010). However, the research is unclear regarding which placement types are more strongly linked to adverse outcomes. In an early study, Widom (1991) found that children in placement such as a guardian's home had higher rates of delinquency than those who experienced foster homes or in-home care. Ryan and colleagues found that youth placed in group homes were twice as likely to be involved in the juvenile justice system, as measured by arrests, than youth who received foster care placements (Ryan, Marshall,

Herz, & Hernandez, 2008). Others have found that placements monitored by probation were more likely to be incarcerated for a serious or violent offense in their teen years (Jonson-Reid & Barth, 2000b). Berzin (2008) used various matching methods to compare child welfare youth with foster home experiences to those that did not. Findings showed no statistically significant differences between the two groups on a variety of outcomes including self-reports of arrest and time spent in jail (Berzin, 2008). Although improvements are being made to placements, such as better models and targeted programs (Chamberlain, 1998; Lemmon, 2006), evaluations of placement types on justice system outcomes are limited.

2.4.3 Placement and Other Aspects of Child Welfare System Experiences

Further adding to this, existing research suggests that placement experiences are the key to understanding the movement of youth from child welfare to justice systems (Runyan & Gould, 1985; Jonson-Reid & Barth, 2000b; Colman, Kim, Mitchell-Herzfeld, & Shady, 2008). Ryan and Testa (2005) reported that male youth with unstable out of home placement histories were at an increased risk for delinquency. Similarly, Widom (1991) found placement instability, as defined by a greater number of out of home placements, was related to an increase in juvenile arrests. In examining the developmental offending trajectories of youth involved in the child welfare and juvenile justice systems, placement instability emerged as a substantial predictor (Ryan, Hernandez, et al., 2007). Further adding to the role of placement experiences, Herz and colleagues found that, at the time of arrest, 65% of youth placed outside of their home had no signs of family stability in their homes of origin (Herz et al., 2010). Thus, existing research indicates that placement experiences matter.

Research has addressed timing of maltreatment to some aspects of delinquency and juvenile justice system involvement. Thornberry and colleagues (2001) examined the timing of

maltreatment, and found that maltreatment in adolescence and maltreatment that continued from childhood into adolescence had a greater impact on adverse outcomes than maltreatment experienced only in childhood. The relationship between adolescent maltreatment and delinquency is complex, but maltreatment is thought of as lessening one's social control, contributing to associations with negative peer influences, and provoking angry feelings due to the maltreatment (Brezina, 1998). Thornberry, Henry, Ireland, and Smith (2010) examined differences of childhood only and adolescent only maltreatment on a wide range of outcomes and found that while childhood maltreatment was related to outcomes of a more internal nature (e.g. depression and suicidal measures), adolescent maltreatment was related to a wide range of outcomes, including externalizing outcomes of arrest, incarceration, and self-reported adult offenses.

2.4.4 Sex, Placement, and Juvenile Justice Involvement

Juvenile and criminal justice system involvement in the general population is a mostly male phenomenon; similarly, in the limited research on youth and young adults with a history of involvement in child welfare, similar results are found (Rivera & Widom, 1990; Jonson-Reid & Barth, 2000a; Maschi et al., 2008). Research shows differences in delinquency on sex for youth who are first delinquent and then receive placement outside of the home (Colman et al., 2008).

McMahon and Clay-Warner (2002) utilized Widom's data set on young people with child welfare and justice system involvement to assert that family instability, defined by household moves preceding out of home placement, had a mediation effect that differed based on sex. Young males who received out of home placement following family instability were 68% less likely to experience an arrest than those who remained in-home; for young females, no differences were found on arrest regardless of whether they remained in-home or received an out

of home placement. Other research differs in that females who received either an out of home placement of foster care or group homes were more likely to experience juvenile incarceration than those who remained in-home (Jonson-Reid & Barth, 2000a). Overall, out of home placement has a stronger negative effect for females than males (McMahon & Clay-Warner, 2002; DeGue & Widom, 2009). Ryan and Testa (2005) studied sex differences in out of home placement on subsequent delinquency petitions. Their key finding was on sex differences as related to placement instability. For young males, if and only if they had a history of placement instability, as operationalized as three or more placements, was there a greater likelihood of a delinquency petition. However, for young females, the higher chances of a delinquency petition occurred regardless of placement stability or instability (Ryan & Testa, 2005). Other research did not find sex differences. Herz and colleagues examined 581 juvenile offenders with a history of child welfare involvement and out of home placement in Los Angeles County and the effects of different characteristics (child, offense, legal, and risk factors) on court disposition and offending behavior after the initial delinquent incident (Herz et al., 2010). However, no sex effect on disposition outcomes was found. Addressing one type of placement, kinship care, Ryan and colleagues found sex differences, in that for African-American and white male youth, the risk of delinquency was greater, while for African-American and white female youth, kinship care had no effect on later delinquency. For Hispanic youth of both sexes in kinship care, a decrease in delinquency occurred (Ryan, Hong, Herz, & Hernandez, 2010).

2.4.5 Race, Placement, and Juvenile Justice Involvement

Children and youth who are African-American are overrepresented in both the child welfare and juvenile justice systems (Hill, 2006; Snyder & Sickmund, 2006). Although disproportionality affects many ethnic minorities, the population of African-American children

and youth is of particular concern given the number of young people affected as well as the huge difference in numbers when comparing child welfare involvement to the general population of people who are African-American. Although African-American children comprised approximately 15% of children in the United States in 2000, they make up almost 37% of the total child welfare population (Adoption and Foster Care Analysis and Reporting System, 2003). While the factors contributing to this problem are multifaceted, scholars note that institutional racism (Mitchell, 2009) and disparities on the front-end and back-end of the systems (Wulczyn & Lery, 2007) play contributing roles. Differential treatment at an individual level based on race contributes to the disproportionate number of young people of color in the juvenile court (Guevara, Herz, & Spohn, 2008). This overrepresentation has far-reaching effects. For example, African-American youth comprise 17% of the youth in the general population; however, they consist of 28% of all juveniles arrested, 37% of youths who are detained, and 38% of all youths in secure placements (Sentencing Project, 2010).

This overrepresentation phenomenon carries through in regard to child welfare placement. It is important to note that youth of color are overrepresented in samples of youth in placement (Colman et al., 2008), and race is a strong predictor of out of home child welfare placement (Hill, 2006). Because children and youth who are African-American are more likely to be placed out of home, they are already at an increased risk for justice systems involvement. At least one study acknowledges that African-American youth are more likely to receive placement while white youth are more likely to remain in their own homes while receiving child welfare services but with a maltreatment report (Jonson-Reid, 2002). Such evidence suggests that similar patterns of overrepresentation will be apparent in further exploring race and its role in youth in child welfare and justice systems.

Research is still new on focusing on in-depth analyses of the role of placement and race in regard to justice system outcomes. Comparisons have been made on youth who had *any* child welfare services versus those that did not have their cases officially opened. One study found that children and youth of color with in-home services had less risk of juvenile delinquency involvement than those with no such services (Jonson-Reid, 2002). Even in these comparisons, differences within these groups are apparent. Any services, defined to include both in-home and out of home care, were found to lower the likelihood of juvenile justice incarceration for African-American and Hispanic youth, but similar results were not found for white youth (Jonson-Reid & Barth, 2000a). Other research supports this (DeGue & Widom, 2009). Few studies, however, specifically address race, various child welfare placement types, and the relationship to delinquent outcomes. One exception, by Ryan and colleagues, examined racial differences in one specific out of home placement type, kinship homes, in regard to official arrests (Ryan et al., 2010). Results showed decreases in delinquency for both Hispanic males and females, but increases in risk for African-American and white males (Ryan et al., 2010). Other studies find different results for the benefit or detriment of placement for youth of color. With a past of child maltreatment only (as opposed to simultaneous delinquent or other problem behavior), placements were helpful in reducing delinquency for African-American youth (DeGue & Widom, 2009).

It is important to note that some of the larger studies on child welfare youth who have involvement in the justice systems did not use samples that were necessarily representative of the reality of the racial composition of young people in systems. In Widom's (1989a) landmark study, the maltreatment sample was comprised of 67% white youth. This is problematic in that such samples do not acknowledge the overrepresentation of children and youth of color within

the child welfare system. Given this, what research has also not yet addressed are the specific group experiences by race in the justice systems. Once attention to racial composition of sample is provided, further questions can be explored: Are different groups with justice system involvement within the child welfare population more likely to be of a certain race or sex? What is the relationship of child welfare placements in relationship to these demographic variables?

2.4.6. Placement and Justice System Trajectories

One way that detail of the similar and different groups within those who have child welfare and justice system involvement can emerge through research is by trajectory analysis. Chung, Hill, Hawkins, Gilchrist, and Nagin (2002) examined offense trajectories of youth in the general population to find five distinct groups of young people's trajectories, which are more than the three groups identified by Moffitt (1993). These five groups were labeled as follows: nonoffenders, late onsetters, desisters, escalators, and chronic offenders (Chung, Hill, et al., 2002).

Unfortunately, only a handful of studies in current research directly examine justice system involvement and specifically offending trajectories of child welfare children and youth. One study, by Ryan, Hernandez, and colleagues (2007), found three distinct groups of offending trajectories for youth aging out of the foster care system: non-offenders (52%), desisters (21%), and those with chronic offenses (27%). The three most prominent predictors of group membership were arrest an early age, school enrollment status, and child welfare placement instability (Ryan, Hernandez, et al., 2007). Ryan and colleagues do point out that it is difficult to make comparisons of these findings, as this study is one of few to explicitly address heterogeneity of developmental offending trajectories in a sample of child welfare youth, especially given that it addressed specifically those youth who age out of foster care. Vaughn,

Shook, & McMillen (2008) found a substantial number of young people in a sample of youth aging out of foster care who fell into groups with either a moderate or high likelihood of involvement in the justice system. Another study also focused on variations of justice system measures in a sample of young people aging out of child welfare (Cusick, Courtney, Havlicek, & Hess, 2011). Still, questions remain; as Ryan and colleagues note:

Prior research clearly indicates levels of increased risk, but the nature of this risk and the associated shape of offending trajectories remained largely unknown. Do adolescents leaving the foster care system engage in delinquency and crime for extended periods of time, or are such offending patterns short lived? (Ryan, Hernandez, et al., 2007, p. 89-90)

Another study that specifically addresses groups within the larger population of child welfare youth, although more focused on front-end maltreatment experiences on subsequent juvenile justice trajectories, used group-based trajectory analyses on an Australian sample to examine timing and chronicity of involvement between the two systems (Stewart, Livingston, & Dennison, 2008). Results showed six trajectory groups, with distinctions based on frequency, onset, and duration of maltreatment (Stewart et al., 2008). A significant relationship ($p < .001$) was found between group membership and later offending. Unlike previous research, though, Stewart and colleagues (2008) report that only 27% of youth had a juvenile offense, although differences in the level of offending varied between subgroups.

2.4.7 Placement and Adult Criminality

Overall, studies tend to address the relatively shorter-term effects of involvement in the child welfare system on the juvenile justice system, but rigorous research on the effects onto adulthood are rare (Mersky & Topitzes, 2010). A growing amount of literature devoted to the relationship between child maltreatment (typically defined as formal child welfare involvement)

and criminal behavior as an adult addresses these linkages. The precedent study in this area examined a group of children who experienced maltreatment at age 12 and under as well as a group of children from the general population (Widom, 1989a, Widom, 1989b). The sample was intentionally drawn from economically disadvantaged families due to their disproportionate appearance in the child welfare system (Widom, 2000). Utilizing a longitudinal design, the sample was then tracked on arrest records. Overall, findings from studies using this data set found that, in general, arrest was not a common outcome, as only 30% of the group who had experienced maltreatment also experienced at least one arrest (this compared to 22% of the general population sample who experienced at least one arrest) (Widom, 1989a). Factors such as sex and race had a greater effect on such outcomes than whether one had experienced childhood maltreatment. Unfortunately, these studies did not differentiate the within-group experiences of the maltreatment group—such as specific child welfare services involvement such as placements.

While research shows a link between child maltreatment and adult criminality (English et al., 2002; Smith, Ireland, & Thornberry, 2005; Topitzes, 2006; Mersky & Topitzes, 2010), what is less known is the role of child welfare placement on adult outcomes. Three studies exist that specifically address child welfare placement on adult criminality, and all three utilize the Widom data set. In the first (Widom, 1991), the age cohort was almost 26 years old and the results indicate that placement was not related to greater adult criminality so much as early delinquent behavior, and a related update found similar results (Maxfield & Widom, 1996). Placement was an important factor in other ways, however. Being of an older age at the time of one's first placement, spending a relatively short time in the first out of home placement, and an increased number of placement moves were associated with a greater number of arrests, and particularly violent arrests, in adulthood (Widom, 1991). The most recent study to specifically address

placement and adult criminality, by DeGue and Widom (2009), found an overall neutral to slight benefit of placement in that foster home placement was related to lower arrests as an adult than no placement at all (DeGue & Widom, 2009). Those with a prior history of delinquency, with higher placement instability, and that adult arrest had a greater influence for males than females who experienced placement (DeGue & Widom, 2009). No statistically significant racial differences were found for adult arrest between whites and African-Americans (DeGue & Widom, 2009).

Also limited are studies that examine connections between child welfare, juvenile justice, and criminal justice, as most studies address two of the three. A body of research on the relationship between juvenile justice involvement and criminal justice involvement in the general population indicates the need for further examining these connections within the vulnerable child welfare population. McMahon & Clay-Warner (2002) used Widom's data to examine the role placement, family separation, and frequent moves had on child maltreatment and juvenile and adult arrests. Results showed that placement did not reduce arrests for those who had a recent family separation, such as divorce, separation, or death, when compared to those who did not. Rather, young people who were put in out of home placement after a recent family separation demonstrated 1.8 times greater likelihood of arrest (McMahon & Clay-Warner, 2002). However, for children who experienced frequent moves, as defined by the family moving two or more times within the year prior to maltreatment, placement decreased the chances of juvenile arrest by 28% when compared to those who did not have such frequent moves (McMahon & Clay-Warner, 2002).

Another study's primary aim was to address the main effect of indicated child maltreatment on adult criminality, while also addressing whether juvenile delinquency would

mediate the relationship between child welfare involvement and adult criminality (Topitzes, 2006). The key strength of this study was that it is one of few studies that address child welfare, juvenile justice, and criminal justice systems involvement. By following young people up until the age of 24, results demonstrated that delinquency mediated the relationship between child welfare involvement and all of the adult crime outcomes, with main effect reductions in the range of 38-63% (Topitzes, 2006). Thus, the need for further research that addresses all three systems—child welfare, juvenile justice, and criminal justice—is highlighted.

2.4.8 Placement and Other Systems

Lastly, few studies address the multidimensional experiences of youth across systems that encompass the child welfare, juvenile justice, and criminal justice systems, but also consider relevant systems such as those providing mental health and drug and alcohol services (Hazen, Hough, Landsverk, & Wood, 2004). This is particularly relevant to understanding this area, as those who experience involvement in the child welfare and justice systems are also often involved in other systems as well, particularly those designed to address mental health and drug and alcohol issues. Children and youth with involvement in the child welfare system overall use the mental health service system at a rate higher than the general population (Hazen et al., 2004), with some estimates of 48 – 81% of youth who receive mental health services being involved in other systems (Farmer et al., 2001). This points to the need to better understand the details of these experiences. Jonson-Reid (2002) is responsible for one of the few studies that used a comprehensive approach to studying the movement of youth across multiple service systems, specifically investigating if child welfare services or other factors moderated the relationship to juvenile corrections entry. Findings demonstrated that of those who were recipients of mental health treatment, youths with conduct disorder (17.5%) and substance abuse problems (13%) had

the highest rates of juvenile justice entry (Jonson-Reid, 2002).

Research on the specific details of child welfare youths' use of drug and alcohol services is particularly lacking (Dembo, 1996). Research has addressed substance use, and particularly parental substance use linked to child welfare involvement (Young, Boles, & Otero, 2007), but not use of the drug and alcohol system itself by child welfare children and youth. Kelley and colleagues (1997) found that youth with a substantiated maltreatment report via child protective services are at nearly twice the risk of having numerous problems, such as substance abuse. Knowing that young people in child welfare are using substances is important, but knowledge of their use of services and programs aimed to combat these issues is critical. Studies typically address substance abuse along the pathway between child welfare and juvenile justice (Ryan, Hernandez, et al., 2007) or use of substances by child welfare youth (Aarons et al., 2008), but research has not targeted service use specifically. Involvement in the mental health and drug and alcohol systems is part of the complex network of systems that a child welfare youth-turned-young-adult may find themselves in, although the nature of the exact relationship remains unclear. Particularly given that out of home placement is intended as a comprehensive solution to help connect child welfare youth with services, it is especially paramount that evaluations of such experiences occur. Placement is important, but how it fits into justice system outcomes and in relation to other systems is not clear.

Reviewing the existing empirical research is informative in providing a foundation for additional work. When compared to non-child welfare young people, child welfare children and youth are more likely to have justice system involvement (Wiebush et al., 2001; Courtney et al., 2010). Comparison studies are helpful in providing basic information, but research on within-group differences is critical for articulating the specific experiences of subgroups within this

population. Demographic variables such as sex and race emerge as variables as the focus of study, although some research shows mixed results regarding race and justice systems outcomes. The role of systems is less addressed in the research. Such experiences, however, have received an increased focus in the literature. Out of home placement (Farmer et al., 2008; Ryan & Testa, 2005) and placement instability (Runyan & Gould, 1985; Jonson-Reid & Barth, 2000b; Colman et al., 2008) are two variables shown to contribute to justice system outcomes. Other systems, such as the mental health and drug and alcohol systems, are likely important as well, but remain less acknowledged in the empirical research. Even more limited are studies that explicitly and comprehensively address the child welfare, juvenile justice, and criminal justice systems despite the demonstrated links between the three (Topitzes, 2006). Thus, gaps remain, as more still needs done in elucidating the relationship between child welfare experiences such as out of home placement, juvenile justice system involvement, and later criminal justice system involvement. In the next section, I describe some of the key issues that research has not fully addressed, including the unclear role of child welfare placement, limited research on justice system experiences, and the general lack of comprehensive studies that include longer periods of time and multiple systems.

2.5 GAPS IN CURRENT RESEARCH

As the preceding section shows, there are numerous limitations in existing research, especially concerning the underlying heterogeneity in patterns of justice systems involvement among child welfare children, youth, and young adults. By addressing these deficiencies in this study, the goal is to improve our understanding of the research to better tailor policy and practice to the specific needs of young people. The identified gaps that are discussed in detail next include the unclear role of child welfare involvement, the limited research on justice system

experiences, and the paucity of longitudinal, cross-systems research.

2.5.1 The Unclear Role of Child Welfare System Experiences: Placement

Existing research points to the need for attention to the role of placement on child welfare young people's justice system involvement. When compared to those in-home, overall out of home placement youth tend to have worse justice system outcomes (Ryan & Testa, 2005). Additional research has mixed findings on whether placement is positive or negative in relation to outcomes. It is unclear how the type of placement plays into this. Initial studies suggest that placement experiences matter, but they have yet to be studied in-depth regarding justice system outcomes. Unfortunately, research has not yet disentangled how these aspects of placement factor into justice system outcomes and placement has not been given the level of attention it needs. One example of this is when research collapses those who receive in-home services with those who experience out of home placement due to small sample sizes (Jonson-Reid & Barth, 2000a). Thus, placement is important to consider, but how it works and whether for better or worse remains unanswered.

2.5.2 Limited Research on Experiences within Justice Systems

Second, a large part of the problem is that most research stops when a child welfare youth is arrested (Ryan, 2006), or at a different initial justice systems time point (e. g., Postlethwait et al., 2010 had an 18-month follow-up), and does not follow their experiences *through* the justice systems. This is especially troubling given that we know little about the different experiences of this population beyond initial systems involvement (Herz et al., 2010), such as what goes on at various time points for youth throughout participation in systems and factors related to their outcomes. As researchers note: "the literature on reoffending is much smaller and much less sophisticated compared with the literature on the initial risk of offending for dependent youths"

(Ryan, Hernandez, et al., 2007, p. 85). Although research has yet to catch up, the reality is that child welfare youth-turned-young adults can and do move in and out of the justice systems at various times, not always as a one-time or nonexistent occurrence. Great utility is derived from research that acknowledges the chronology of youths' placements and what it provides to understanding the greater whole of events over a lifespan (Havlicek, 2010). The need for research that follows youths and young adults throughout their involvement in the justice systems is necessary to better understand their experiences, yet this important gap remains unfilled.

In general, research has addressed delinquent and criminal outcomes for child welfare youth with limited measures that are not necessarily the same as outcome measures of juvenile and criminal justice system involvement. Existing research often addresses involvement of youth in systems in terms of "maltreatment" and "delinquency," but not always using language and research designs that acknowledge the role of systems and system experiences in these experiences and outcomes. Keller, Cusick, and Courtney (2007) examined "problem behavior" of youth aging out of the child welfare system, which consisted of a dichotomous measure of whether a young person had spent time in jail since leaving foster care; Kim (2008) analyzed child welfare youth's "antisocial" behavior. While the former study did use a measure of justice system involvement, the issue lies when it is discussed in terms of individual behavior, as these measures are problematic in that they imply that the "problem" or negative outcome lies within the individual. By not explicitly capturing actual system involvement, blame for these outcomes is attributed to young people themselves and no attention is paid to the role that the systems themselves may play in this. Thus, no study has comprehensively examined variations of justice system involvement of child welfare youth and young adults, including the role of child welfare

services in outcomes.

These pathways from youth to young adulthood are also not fully developed in the current research, mostly neglecting to what extent youth and young adults with a history of child welfare involvement are involved in the justice systems, and what patterns of similar involvement among the larger group look like. One shortcoming of previous work is that a number of studies use limited outcome measures (Ryan, Herz, et al., 2007; Mersky & Topitzes, 2010). An example of this is a study that looked at incarceration as defined by being sentenced to a correctional facility for a minimum of 30 days; because of this, shorter stints were not captured (Mersky & Topitzes, 2010). Moreover, analyses are often limited to characteristics regarding first time offenders and do not capture the reality of youths' in-and-out involvement (Ryan, Herz, et al., 2007); and, with few exceptions (Piquero, 2008; Vaughn, Shook, & McMillen, 2008; Ryan, Hernandez, et al., 2007), has not fully addressed the repeated arrests and processing of juveniles. This provides us with limited information on the actual justice system experiences of the vulnerable population that are comprised of child welfare youth.

2.5.3 Not Longitudinal, Not Across Systems

A longitudinal approach is needed to this area, as previous cross-sectional research is not adequate to address interactions and patterns over time and with a greater number of follow up time points (Epstein & Quinn, 1996; Laitinen-Krispijn, VanDerEnde, Wierdsma, & Verhulst, 1999), predictors of youth's characteristics regarding similarities and differences of experiences across systems (Garland et al., 2001; Colman et al., 2008). Hazen and colleagues (2004) point to the particular need for research on children and youth in the child welfare and juvenile justice systems. Others emphasize the need to better understand the specific role of child welfare services on subsequent delinquency (Jonson-Reid, 2004) and juvenile justice system

involvement over time. One scholar points to the need to fill specific gaps: “future research should include differentiating between genders, longitudinal design, ...and looking more into subgroups” (Bender, 2010, p. 470). In fact, very few studies exist that explicitly address child welfare youths’ experiences in the juvenile justice system (Ryan, Hernandez, et al., 2007; Herz et al., 2010).

One specific variable that is quite overlooked regarding specific pathways of child welfare youth in the juvenile and criminal justice systems is age. While categorizing offending behavior based on age is not new in general population samples who have experiences in the justice systems, this is not as well known regarding child welfare samples. What is known is, again, a comparison between child welfare and non-child welfare youth, specifically: those who had a history of child welfare involvement that were arrested were more likely to be younger than non-child welfare youth (Ryan, Hernandez, et al., 2007). However, there is more to the story once one moves away from general comparisons and takes a more within-group analysis. Of the youth in foster care, Ryan and colleagues found that those who offended over a relatively short period peaked at age 18, which is also around the time that a substantial number of youth in the sample were in foster care (Ryan et al., 2010). Another study found that any experiences of maltreatment while a teenager were related to a greater likelihood of arrest and committing offenses from ages 20-22 (Smith et al., 2005). As of yet, research has not sufficiently addressed the role of age in regard to justice system outcomes. Rivera and Widom (1990), on the other hand, limited their sample to children who were age 11 or younger during their maltreatment in order to ensure delinquency proceeded the abuse or neglect. By placing certain restrictions on the ages of children and youth in studies of justice system outcomes, the full impact of placement is lost.

This study helps fill in gaps in the current research of children and youth who become involved in the juvenile and criminal justice systems. First, by focusing on placement as a key factor in understanding justice outcomes, a more detailed analysis is provided than previous research. Further, by addressing specific dimensions of the placement experience, research moves from a general to a more specific understanding of placement and justice system outcomes. Second, this study seeks to further current knowledge by acknowledging the repeated involvement of some child welfare youth and young adults in the justice systems. While initial involvement is important, it is also critical that the full range of experiences is considered. Finally, research has not comprehensively studied child welfare children and youth who have involvement in the justice systems over long periods of time and while taking into account the likelihood of their involvement in multiple systems, either concurrently or simultaneously. Age is one way in which their experiences over time can be captured, and this study provides a wide picture of their involvement over a substantial period of time and over multiple systems.

In this chapter, I provided an overview of the historical context of treatment of children and youth in the child welfare and juvenile and criminal justice systems, addressed the relevance to social work practice and policy, discussed three theoretical frameworks that inform this research, reviewed the empirical research that demonstrates the need for additional research on placement youth in the justice systems, and, finally, presented some of the key gaps in current research. Existing gaps show that placement matters, but exactly how and over time in relation to justice system outcomes is not well understood. Thus, the current study seeks to fill in these gaps through quantitative analysis of children and youth who move through these multiple systems. In the next chapter, I present the methods used to address these issues.

3.0 METHODS

Young people with child welfare system experiences are more likely to enter the justice system than those without such experiences, but the details of the relationships between these two systems, and their impact on young people's similar experiences, need to be further addressed in the existing research. In this chapter, I present the methods I use to attend to the research questions of this study, covering the research design, research questions, data description, data collection, independent and dependent variables, and the data analysis plan in detail.

3.1 RESEARCH DESIGN AND RESEARCH QUESTIONS

The overall goal of this study is to present an in-depth focus on the various groups within the larger population of child welfare youth with substantial out of home placement experiences who enter into the justice systems. Research tends to focus on comparisons of child welfare youth with non-child welfare youth, but overlooks a lack of extensive explicit attention to the similarities and differences of young people with experiences in the child welfare system exclusively. I accomplish this objective by providing a description of who they are, what kind of groups are identified among them, factors related to justice system trajectory group membership, and comparisons between the justice system trajectories and child welfare placement trajectories.

The preceding theoretical frameworks provide the foundation for the research questions addressing the patterns and variables related to the movement of youth and young adults with experience in out of home child welfare system placements to the justice systems. The following

research questions, as guided by the theoretical frameworks, empirical literature, and research gaps are addressed:

1. How do young people involved in the child welfare system, with experiences in out of home placement, differ with regard to their extent of involvement in the justice system over time?
2. Are there differences related to demographic characteristics, child welfare experiences, and other system involvement?

The first research question aims at filling in the large gap of the unknown details of youth and young adults' justice systems involvement. Moffitt (1993) and Sampson and Laub (1993) provide the theoretical foundation that there will be distinctively different trajectory groups. Due to the underdeveloped nature of this specific area of research, this study is exploratory in seeking to describe groups of child welfare youths' involvement in the justice systems, and while theoretical frameworks provide that groups will emerge, details of these relationships are not proposed.

The theoretical frameworks of Moffitt's (1993) taxonomy and Sampson and Laub's (1993) perspective of offending over the life course help to provide the foundation for understanding the differences in justice system trajectories. Specifically, these frameworks assert that within a broad group, such as young people with child welfare involvement, that categories of distinct delinquent offenders, operationalized and applied in this study as those involved in the juvenile justice system, are delineated. Further, Sampson and Laub (1993) extend this perspective over the life course, specifically that there will be connections between involvement in the juvenile justice system during adolescence and involvement in the criminal justice system as an adult via offending over the study's age range. In extending Moffitt's theory to empirical

applications, researchers found in different samples more than two types of offending groups exist in a sample from the general population (Chung, Hill, et al., 2002); this finding helps provide the basis for extending Moffitt's work specifically to a child welfare sample to find possible variations in juvenile and criminal justice system involvement trajectories.

Maschi and colleagues (2008) assert one of few theories that address the role of systems on child welfare youths' outcomes and involvement in other systems. This is particularly relevant because the role of systems in trajectories is an aspect that previous research has not fully addressed for child welfare youth. The current focus of a substantial amount of existing research is on the connection between maltreatment and delinquency, and while examining adverse outcomes for youth from this perspective is valuable, so too is acknowledging the role that various systems play in the experiences of these youth. Through drawing on Maschi and colleagues' social-justice model (2008), I am able to clearly acknowledge systems as a factor in young people's experiences.

Currently, theoretical frameworks and models that elucidate the role of various systems in the movement of youth within and across them are limited in that system involvement is largely presented without attention to detail of the complex role they take. In reality, the movement of youth varies over time and between various types of out of home placement. Thus these research questions draws on existing frameworks as a foundation to advance theoretical development by actively acknowledging that there are details within these models that have not yet been made explicit. Shifting from the theoretical to the empirical, next I discuss the details of how I designed this study to address the research questions, and provide information on the data and variables in this dissertation.

3.1.1 Data

This study utilized data collected from a larger study from a collaboration with the Allegheny County Department of Human Services (DHS), which is the county that includes Pittsburgh, Pennsylvania. The primary research team for this project is affiliated with the University of Pittsburgh (“Understanding Transitions to Adulthood Among Child Welfare-Involved Youth,” Principal Investigators: Jeffrey Shook, MSW, JD, PhD and Sara Goodkind, MSW, PhD). The study gained approval from the University of Pittsburgh Institutional Review Board. The researchers collected data from a special source called the Data Warehouse, which contained information from various social service and justice systems within the county. This comprehensive data set includes child-level information on child welfare, mental health, drug and alcohol, juvenile justice, and the criminal justice systems, which allows for the ability to address the movement of children, youth, and young adults within and across the child welfare system and the justice systems. DHS also oversees the Office of Behavioral Health (OBH), which contracts with providers of mental health and drug and alcohol programs to provide services to the child welfare system’s children and youth. For justice systems involvement, the Data Warehouse contained different details regarding placement variables for both the juvenile justice and criminal justice (county jail) data.

The larger study sample uses a cohort data set of children and youth born between 1985 and 1994 who belonged to a family that received either in-home or out of home child welfare services, or both, in Allegheny County, Pennsylvania (including Pittsburgh). The overall sample from the larger research project consists of 42,735 children and youth, comprised of 23,754 families. Of the sample, 9,273 children and youth experienced out of home placement in some form. The demographics of the sample were 51% male and 49% female; 47% African-American,

45% white, and 6% biracial. Each young person in the whole sample belonged to a family who received either in-home or out of home child welfare services, and variables cover their mental health, drug and alcohol, juvenile justice, and criminal justice involvement as well as additional services not addressed here (such as hunger and housing). The advantage of this multiple system data is its longitudinal nature that allows for analyses to address experiences over a large age range as well as their relation to specific ages. Similar to the methods of Ryan and Testa (2005), who focused on one specific cohort up in which data were available from birth to age 18 to have same risk period, this study follows a same-aged cohort up to age 22. Using this age range captures the height of the age-crime curve, which reaches its peak during teen years and then declines (Farrington, 1986).

To attend to the specific research questions of this study, I utilized a smaller sample, derived from the data in the larger study. The inclusion and exclusion criteria were: 1) at least age 18 at the time of data analysis in order to allow for full time of possible child welfare and juvenile justice system involvement, and the maximum age of 22 years old 2) at least one year total in out of home child welfare placement in order to ensure that a substantial amount of child welfare placement experiences could be included in the analysis, 3) due to small sample size in the large data set as well as this small subsample, subjects were not included if their race classification was different than African-American or white, 4) subjects were not included if they were missing data on sex, and 5) a random selection of one child per family occurred in order to meet the assumption of independence, as well as to ensure that families who had larger numbers of children did not factor into the results with greater weight than those with fewer (Grobe, Weber, & Davis, 2003).

The focus of this study was to specifically address child welfare youth who had a

substantial history of out of home placement, thus, in order to ensure that the sample included those with enough experiences to discuss the impact on justice system trajectories, the inclusion criteria purposefully included young people with substantial out of home placement experiences. Because permanent adoption in the child welfare system is a time-consuming process, and adoption cases tend to have high involvement in foster home placements, many children and youth who ultimately experienced adoption are included in the sample ($n = 217$). While this is an important acknowledgement of who is represented in the sample, this subgroup is still valuable to include and were not controlled for in the analyses, as this group legitimately has lengthy child welfare placement experiences.

Other studies compare in home youth to out of home placement youth, but the purpose of this study is to focus exclusively on young people who had substantial placement experiences in the child welfare system in order to provide a new level of detail about their specific justice system groups as related to child welfare experiences and other variables. Thus, the criterion of one year in out of home placement fits in being able to provide information on young people who had a sizeable amount of experiences with which to draw conclusions.

I performed quantitative analyses of administrative data to answer the two research questions in this study. This methodology was appropriate for the proposed questions, as the “innate longitudinal nature of administrative data” over years of time is advantageous for research questions regarding long-term effects (Drake & Jonson-Reid, 1999, p. 309). Also, it is efficient to track large numbers of youth and their outcomes through quantitative methods, as they can easily cover a wide age range.

First, I describe the variables I selected for analysis based on the theoretical frameworks previously outlined in Chapter 2. They are organized here according to independent variables

(demographics, child welfare system experiences, and other system involvement) and outcome measures in the juvenile and criminal justice systems.

3.1.2 Independent Variables

3.1.2.1 Demographics

Sex, Race, and Age

Sex was a dichotomous variable measured as male or female. Race was also measured as a dichotomous variable: African-American or white. In the analyses, the reference group for the regression are young people who are white, and females. Age was a continuous variable constructed based on when data were collected from the DHS Data Warehouse. As the birth cohort for this study contains those born between the years 1985 and 1994, the oldest in the group are currently reaching up to age 26, however full data have been only been obtained to address those up to age 22, thus this was the maximum age I included in this study. By examining a range of ages that span both the juvenile and criminal justice systems, better connections are made of profiles of which youth have involvement in both systems, as opposed to studies that focus on one system outcome or the other. Age is also used to ensure a longitudinal design in this study.

3.1.2.2 Child Welfare System Experiences

To add to the understanding of the role of child welfare experiences on justice system involvement, I included a range of variables. These include: age at entering first child welfare placement and age at leaving last placement; length of time in placement; number of placements; whether a family's child welfare case was closed before a subject turned 13 years old; whether or not a subject had drug and alcohol system involvement prior to justice system involvement; whether or not a subject had mental health system involvement prior to justice system

involvement; whether a subject had ever been in a foster home, group home, or regular residential placement; whether a subject had ever been in only a foster home, group home, or regular residential placement; whether a subject had been in one, two, or all three of the placement types in this study; and the percentage of time spent in each of the three placement types: foster home, group home, and regular residential placements.

Age at First Child Welfare Placement

Consistent with prior research (Jonson-Reid & Barth, 2000a; DeGue & Widom, 2009) , age at entering first child welfare placement provides detail about when a child or youth had their first out of home placement experience.

Age at Leaving Last Child Welfare Placement

Age at when a subject left his or her last child welfare placement provides description about when an individual left child welfare placement for the last time. Due to missing data on five cases, this variable was calculated based on available data ($n = 788$). In Pennsylvania, young people in the child welfare system automatically “age out” at the age of 18, unless they proactively decide to stay in the system up to age 22.

Given the longitudinal nature of the trajectory analysis, both age-related child welfare variables were important to give detail to timing of these child welfare events in relation to justice system involvement.

Length of Time in Placement

Consistent with previous research (DeGue & Widom, 2009), the length of time in out of home placement in the child welfare system measures, in years, the amount of time spent within out of home placement.

Number of Placements

To address one aspect of placement experiences, the number of child welfare system placements was used. This measure is also consistent with previous operationalizations (Ryan, Hernandez, et al., 2007; DeGue & Widom, 2009). The preceding two variables—length of time in placements and number of placements—are used to provide greater detail of child welfare placement experiences.

Child Welfare Case Closed Before Age 13

Since previous research addressed the potential importance of the possible effects of early versus adolescence involvement in the child welfare system on a variety of adverse outcomes (Thornberry, Ireland, & Smith, 2001), I utilize a dichotomous measure of whether or not a subject had their family's child welfare case closed before age 13. Because a child welfare case is opened on the family level, meaning if a report of maltreatment is made on one child, the whole family is opened for services, it is important to distinguish what this represents. The child/youth included in the sample may or may not have been the main child that a case was opened for services. Also, this variable does not measure maltreatment, which is not synonymous with child welfare system involvement, and the goal of this study is not to focus on maltreatment specifically. Nevertheless, this variable is helpful in informing a basic aspect of timing and involvement in the child welfare system.

Placement Type: Foster Home, Group Home, and Regular Residential Placement

Most child welfare placement experiences in the sample fell under one of three placement types: foster homes, group homes, and regular residential placements. Foster homes refer to home-based settings in which a young person resided with an unrelated family that may or may not include other children and youth in the home. Group homes and regular residential placements are categorized as congregate care settings, in which young people reside in

institutional settings with other children and youth and are cared for by unrelated individuals who work in shifts. Group homes tend to be less restrictive and smaller than residential facilities. I constructed dichotomous variables for whether each young person in the sample ever spent any amount of time in each of these three main child welfare placement categories. Further details of how these were used for the regression and trajectory analyses are presented later in this chapter as well as the results chapters.

Placement Type: Ever in Only

I constructed “only” variables as a dichotomous measure of whether a young person only ever had experience in each of the three placement categories: foster homes, group homes, or regular residential facilities.

Number of Placement Types

To include the consideration of if a subject experienced multiple placement types, I constructed a variable to measure whether a young person experienced one, two, or all three placement types used in this study (foster home, group home, regular residential facilities). Some young people had experiences in placement types other than these main three. However, this was less than one percent of the overall sample (0.8%), including placement types such as independent living.

Percentage of Time in Each Child Welfare Placement Type

I utilized already-existing variables from the larger study to measure the percentage of total time in out of home placement that a subject spent in each of the three main placement types: foster homes, group homes, and regular residential placements.

3.1.2.3 Other Systems Involvement

The social-justice system model (Maschi et al., 2008) acknowledges the interrelated

nature of multiple systems. Informed by this, it was important to include variables that addressed systems beyond the child welfare system. Because of the sources of the data, services provided from private insurers on either drug and alcohol services or mental health services are not included in this study.

Drug and Alcohol System

I included two main measures of drug and alcohol system involvement. First was a dichotomous measure of if a young person had experienced any type of drug and alcohol system involvement before their first juvenile justice system involvement, including outpatient and inpatient services. Although timing was not the main focus of the study, using this variable was useful in understanding the interrelationships between the systems. Additionally, an overall dichotomous measure was constructed of drug and alcohol system involvement of any type during the entire age range of study. I include both measures for the trajectory analyses, and use the overall measure for the regression.

Mental Health System

Similar to the two drug and alcohol system involvement variables, I made measures of mental health system involvement. This measure includes a wide range of services, from an assessment to medication management appointment to outpatient and inpatient services. First, I constructed a measure of if a young person had ever received any type of mental health service prior to their involvement in the justice system. Second, I made an overall measure of if a young person ever had mental health services during the age range. Similar to drug and alcohol system measures, I utilize both measures for the trajectory analyses, and include the overall measure for the regression.

Extent of Justice System Involvement

For descriptive purposes, I include aspects of juvenile and adult justice system involvement to provide further detail on the justice system trajectory groups. First, I created a dichotomous measure of whether a young person spent time in the county detention facility or a residential juvenile justice facility. Of the young people in this group, I calculated the mean number of days in justice system placement to examine the length of time each of the justice system trajectory groups spent on the juvenile justice system. Due to missing data, I did not include one case out of the 233 subjects who experienced juvenile justice involvement but was missing specific details on the involvement. Another case was dropped due to being an extreme outlier, thus I used the final $n = 231$ for this variable.

Additionally, for adult justice system involvement, I made a dichotomous measure of whether a young person spent time in the local county jail. From this group, I calculated the mean number of days in the county jail stood as the criminal justice extent measurement. Due to missing data for 3 of the 148 cases who had county jail involvement, a final $n = 145$ was used for this variable.

3.1.3 Outcome Measures

3.1.3.1 Justice System Involvement

For the purposes of this study, to fill in the gap of justice system involvement of people who have experience in the child welfare system, the outcome measures I utilized were formal contact and involvement in the juvenile and criminal justice systems for ages 12 to 22 years old. These measures included dichotomous variables of having ever experienced placement or incarceration (county jail) in the juvenile and/or criminal justice systems during three month time increments. Building on previous work in which only longer stays of incarceration were used (Mersky & Topitzes, 2010), these analyses include any length of time of justice system

placement/incarceration.

In an effort to draw attention to the role of systems on young people's trajectories in the justice system, it is important to distinguish between outcome measures of offenses committed—delinquent and/or criminal—and formal involvement in justice systems. Studies on trajectories of youth have used both self-reports of offenses (Chung, Hill, et al., 2002; Chung, Hawkins, et al., 2002) as well as formal measures of systems use (Ryan, Herz, et al., 2007). The administrative data for this study measures formal system involvement, including placement in juvenile detention and time spent in the county jail. Thus, it does not address committing delinquent and criminal acts. An individual can break laws and rules and never have formal justice system involvement, through never being caught or processed. Thus, the measure I use likely underestimates actual delinquent and criminal behavior (Ryan, Herz, et al., 2007) such as institutional racism and disproportionate minority contact (The Sentencing Project, 2010). Additionally, there are a variety of extra-legal factors that can influence a young person's more extensive involvement in systems (Ryan, Hernandez, et al., 2007). It is beyond the scope of this particular work to address all of these factors, but still crucial to acknowledge the role that factors such as race can play in these movements within and across systems.

The formal measures of justice system involvement that are included in this study provide a different and important addition to existing work. While formal justice system involvement does not necessarily measure guilt or innocence for an act, it is still a substantial disruption in one's life, and can impede on a path to achieving larger life goals. This is especially important as the mission of the juvenile justice system in particular is to divert some young people away from further formal system involvement, in recognition that there are times when such processing is more harmful than helpful (Lundman, 1993). Also, while other administrative

measures have addressed the front-end variables in the justice systems such as arrests (e. g. Ryan, Herz, et al., 2007) or referrals to juvenile court (Halemba & Siegel, 2011), this study addresses research gaps on the extent of formal system involvement by examining placement factors (juvenile facility, county jail). Placement and incarceration are the most formal of system involvement, as they are the largest disruption to an individual in terms of being most restrictive and requiring one to leave one's home and employment for confinement.

Outcome measures of juvenile and criminal justice system involvement address other vital aspects as well. By examining what groups are related with heavier systems involvement, as opposed to lighter involvement, tailoring of policy and practice can occur to identify who is most at risk for such outcomes, as well as provide guidance for further research on who is particularly vulnerable to systems involvement. Knowledge about what groups are at risk is also important in determining key differences, as serious offenders may be different than groups of young people who are processed more frequently, but for less serious offenses (Ryan, Herz, et al., 2007).

3.1.3.2 Child Welfare Placement Types

I also modeled trajectories for the three main types of out of home child welfare placement in the sample: foster home, group home, and regular residential facilities. The age range for foster home placement is from ages 8 to 18 years old. For group homes and regular residential placements, the age ranges are from 12 to 18 years old. Although young people were involved in foster homes prior to age 8, the focus of this study was on the years immediately before typical delinquency ages. More details of this are presented in the next chapters. Children and youth in Allegheny County automatically age out of the child welfare system at age 18, unless formal requests are pursued by the youth to remain under formal care. Most young people, however, do not pursue remaining under the child welfare system's care. Thus, I use age 18

years old is used as the child welfare cutoff age.

3.2 DATA ANALYSIS PLAN

I performed all data management, descriptive analyses, and multinomial logistic regression using SPSS v. 19, and I conducted all group-based trajectory analyses using SAS v. 9.3, using the PROC TRAJ macro. I utilized the LOGIT model for the PROC TRAJ procedure due to the dichotomous outcome measure of the dependent variable at the various age time points.

The plan for the data analysis was in a few main stages. The first stage was designed to answer the question of how do young people in child welfare differ in their extent of involvement in the justice system. First, I provided descriptive information of the sample. Next, I performed semiparametric group-based polynomial logistic regression trajectory analysis (“trajectory analysis”) to determine distinct trajectory groups within the larger sample on the juvenile and criminal justice system measures. To extend this information into descriptive profiles of the subgroups, I also ran descriptive statistics on their demographics, days spent in the juvenile and criminal justice systems, child welfare experiences, and involvement in the drug and alcohol and mental health systems. Then, I conducted multinomial logistic regression to examine predictors of demographics and child welfare experiences on these justice system experiences. This method was aimed at answering the second research question, by focusing on variables as they relate to predicting justice system group membership. Finally, I conducted separate child welfare placement trajectories by placement type (foster home, group home, and regular residential), and then cross-tabulated these with the previous justice system trajectories, in order to provide additional depth of information about the youth and young adults who comprise these groups. While the child welfare placement trajectories were not the main focus of this study, by

cross-tabulating them with the justice system trajectories, what emerges is a more nuanced and organized way of comparing and contrasting the justice system groups on child welfare experiences. Next, I describe the details of the trajectory analysis procedures in greater detail.

3.2.1 Trajectory Analysis

The main statistical technique utilized in this study is semiparametric group-based polynomial logistic regression trajectory analysis, as the overall objective of this study is to define and describe the groups inherent within the larger population of child welfare children, youth, and young people who have experiences in the justice systems. Often, there is unobserved heterogeneity within a larger sample that trajectory analysis can uncover. Typically, constructing groups based on easily observable characteristics describe within-group differences for samples. However, the advantage trajectory analysis provides is it takes these categorizations further. Trajectory analysis assumes that a population is comprised of different groups that have similar, underlying developmental trajectories that can best be identified through statistical methods (Chung, Hawkins, et al., 2002). Nagin (2005) defines a trajectory as “the evolution of an outcome over age or time” (p.1). Trajectory groups, then, are inherent groups within a broader population, comprised of individual people who have similar patterns over time of a particular outcome variable (Nagin, n.d.). The number of groups derived depends on factors of the study such as sample size and the total time period under study (Nagin, n.d.). These groups are subjective in that they are derived from the sample under study—each person does not actually belong to an objectively defined, noticeable group, nor do all group members necessarily follow the exact same trajectory within a group (Nagin, n.d.). However, the utility that this method provides is in grouping subjects who have similar patterns in order to elucidate similar experiences to provide a more detailed understanding of within-group similarities and

differences.

Trajectory analysis has many advantages as a technique that makes it a good fit for the research questions in this study. Specifically, trajectory analysis is employed for empirically examining taxonomic theories; distinguishing groups and paths within large, longitudinal sets of data; and clarifying the relationships between different behaviors over time (Nagin, n.d.). By grounding this dissertation partially in the taxonomic theoretical frameworks of Moffitt (1993) and Sampson and Laub (1993), trajectory analysis is an appropriate technique as it identifies underlying groups with similar experiences. Further, this study aims to extract specific groups over time of child welfare youth and young people within the justice systems within a large data set, and trajectory analysis is conducive to such sizeable data sets.

Another benefit from using trajectory analysis for this study is that the technique is part of a growing number of analyses that are “person-based” (Bergman, 1998; Magnusson, 1998; Piquero & Weisburd, 2010, p. 55). There is an increasing demand for statistical methods that place the focus of analysis on a person and their accompanying behaviors and experiences, to find similarities and groupings. One assumption of methods such as trajectory analyses is that they “assume that the population is composed of a mixture of distinct groups defined by their developmental trajectories” (Nagin & Odgers, 2010, p. 115), although it is important to note that the groups described are a function of who is in the data in the first place (Nagin & Tremblay, 2005). Since the main objective of this study is to parse out the different within-group differences of child welfare youth and young people involved with the justice systems, this methodology is ideal. Additionally, trajectory analysis has a variation that is used for dichotomous outcome measures, as is the case in this study.

In order to employ trajectory analysis, I performed Nagin’s method (2005) with

estimation using SAS PROC TRAJ (available at: <http://www.andrew.cmu.edu/user/bjones/>) (Jones, 2010). PROC TRAJ is a macro used with SAS software. The procedure is tailored to fit the needs of existing data, including a procedure to support dichotomous data outcomes using the LOGIT estimation. Unlike other mixture models, such as Muthén's (2004), the methods of Nagin and Jones' trajectory analysis does not assume variability in growth parameters within each group (Huang, 2010). Therefore, if a subject deviates from the overall average trajectory within a group, trajectory analysis credits this to random error (Huang, 2010).

If a subject has not had the same amount of time "at-risk" for the outcome of study, trajectory analysis makes appropriate adjustments to handle this issue. For this study, if a subject is not the same age as other young people, in that they have not yet had the opportunity to experience the full amount of time "at-risk" for justice system involvement, trajectory analysis treats the missing time points as missing data and therefore do not include this information in the analysis.

To determine the best number of groups for each outcome, I used a combination of conceptual and statistical rationales. I employed the Bayesian Information Criteria (BIC) and Akaike Information Criteria (AIC) to determine the number of latent groups within the larger sample. Similar studies have used trajectory analysis and have been informed by the BIC (Kim, 2008; Ryan, Hernandez, et al., 2007). One advantage of the BIC is that it tends to favor parsimony, but to note, it also tends to choose a larger number than smaller number of groups. Acknowledging the strengths and limitations of the statistical justification for choosing a number of groups, I also utilized conceptual rationales grounded in the three theoretical frameworks from this study as well as general knowledge about the subject matter of young people in child welfare and the justice systems.

This study used four different trajectory models total. First, I constructed trajectories based on justice system involvement for the age range 12 to 22 years old using a dichotomous measure of if an individual ever spent time during a three month increment of time in either the juvenile or adult justice system placements/incarceration in county jail. Further details of how I chose and refined the final justice system trajectory model are presented in Chapter 4.

Second, I performed three additional, separate trajectory models for each of the three main types of child welfare out of home placement in the sample: foster homes, group homes, and regular residential facilities. Since the purpose of this study was to parse out justice system differences among specific groups of young people on placement types, then it follows to provide this level of detail in the trajectories and crosstabs. By performing separate trajectory analyses for the two placement types that fall under the broader category of congregate care placements, an important gap is filled in existing research. Doyle (2007) compared young people in “foster care,” defined as any type of out of home placement, to those with in-home child welfare services on a range of outcomes including delinquency measures. Ryan and colleagues (2008) extended this by comparing young people with group home experiences to those with foster home experiences on delinquency measures. By running separate trajectories for foster homes, group homes, and regular residential placement types, I am able to provide further detail on the relationship between child welfare placement type, and the groups within each type, as related to justice system outcomes.

Although child welfare placement trajectories themselves were not the main focus of this dissertation, they do provide further details to child welfare system experiences, especially when cross-tabulated with justice system trajectories. By utilizing these additional trajectories, not only is more detail given to the justice system trajectories, but in an organized way through

categorizing the child welfare placement experiences themselves. The details of each of these are presented next. Similar to the justice system trajectories, each addresses whether a subject has ever been in a foster home, group home, or regular residential facility across age. As mentioned previously, age ranges were individualized for each of the three trajectories. For the foster home trajectory, the average age of first placement in the sample was 8.14 years old, therefore the age range of 8 to 18 was used for this trajectory. Since the justice system trajectory range starts at age 12, the foster home trajectory provides a four-year range of additional experiences that precede justice system involvement. The age ranges used for both the group home as well as the regular residential trajectories was ages 12 to 18. This range mirrors the age range used for the juvenile justice portion of the justice system trajectory, and was aligned with the frequency distribution of the sample data. For each of the three placement trajectories, I conducted similar methods to those of the justice system trajectories: I utilized the LOGIT model of the PROC TRAJ procedure due to the dichotomous nature of the outcome variable (ever in each placement within three month time increments). I discuss details of how I chose the final placement trajectory models in Chapter 5.

3.2.2 Multinomial Logistic Regression

To provide further detail of the groups that result from the justice system trajectories specifically, I performed multinomial logistic regression to examine the specific variables related to group membership. Since the outcome is categorical (the different categories of groups that result from the trajectories), this specific type of regression is appropriate. The group of young people in which there is no or low involvement in the justice system is used as the comparison group. Further detail of this analysis and results are presented in Chapter 4.

3.2.3 Cross-Tabulations

Once I established the number of groups for each of the four trajectories—justice system involvement, foster homes, group homes, regular residential facilities—then I conducted two-way χ^2 analyses to examine the cross-group membership of the trajectories. The main focus of this analysis is to provide further detail of the relationship between child welfare placement type and justice system trajectory group membership. I also conducted placement cross-tabulations between the three placement types to examine the relationships among child welfare placements. Details and results of this method are discussed in Chapter 5.

This chapter provided an overview of the methodology I utilized in addressing the research gaps I identified in the review of empirical literature. I decided to address the two research questions using quantitative analysis of administrative data that came from a larger study on the multiple system involvement of young people with child welfare system experiences. I presented an overview of the criteria I used to select my final sample for this study. Then, I outlined the specific data analysis methods I decided to perform to effectively address my research questions: trajectory analysis, multinomial logistic regression, and cross-tabulations. The next two chapters cover the results of these analyses, and are divided based on first addressing justice system trajectories, then child welfare placement trajectories and cross-tabulations.

4.0 RESULTS FOR JUSTICE SYSTEM TRAJECTORIES, JUSTICE SYSTEM TRAJECTORY GROUP DESCRIPTIVE INFORMATION, AND MULTINOMIAL LOGISTIC REGRESSION

I describe the methods in the previous chapter to provide detail on the specific experiences of child welfare youths' involvement in the justice systems, particularly as they relate to demographics, child welfare experiences, and involvement in other systems, to design effective and efficient interventions as tailored to their particular needs. How are young people's experiences similar and different for justice systems involvement, and what factors are related to these experiences? The child welfare system acts as a gateway to other services (Woodhouse, 2007), and these systems are interrelated (Maschi et al., 2008), but what is not as well-known are the details of this for young people with experiences in out of home child welfare placement. Thus, the current study examines demographic factors, child welfare experiences, and other system variables on justice system trajectories, as well as predictors of the trajectories, in young people with substantial involvement in the child welfare system. Also, I model placement trajectories for the three main types of child welfare placements found in the sample. This chapter demonstrates the findings of the first half of the quantitative analysis in this study: the justice system trajectories, descriptive information of the groups that emerge, and results of specific variables related to group membership. The next chapter presents the results of the child welfare placement trajectories and cross-tabulations of them with the justice system groups. Together, they provide detail on this important population of young people and their similarities and differences.

4.0.1 Sample

Table 1 presents demographic information on the sample used for this study. Of the 794 subjects in the final sample, 49.2% ($n = 391$) were male and 50.8% ($n = 408$) were female. These numbers for sex were similar to those of the larger study from which I derived this specific sample. Approximately two-thirds of the sample were African-American (66.2%, $n = 526$), and 33.8% ($n = 268$) were white. This study's specific sample had a higher representation of African-American youth than the larger study's overall sample. Given that youth of color are overrepresented in samples of youth in placement (Colman et al., 2008), this result is not surprising due to the focus here on young people with out of home placement in the child welfare system, as opposed to in-home services. Regarding whether a young person had ever had juvenile justice system involvement, 29.3% ($n = 233$) of the sample had spent any amount of time in a residential juvenile justice/detention facility. Of those who had such involvement, the average number of days spent in juvenile justice system placement was 52.16 ($SD = 66.35$). The median was 33.42 days. For adult criminal justice system involvement, slightly less of the sample had spent time in the county jail (18.6%, $n = 148$). Of those with jail involvement, the average length of stay was 31.02 days ($SD = 58.12$). The median was 7.50 days. The average age of the sample as of October 2008 was 20.46 years ($SD = 1.11$).

This study also included measures of young people's child welfare placement involvement. The average age at which a young person in the sample received his or her first out of home placement in the child welfare system was 8.14 years ($SD = 5.25$). The average age at which a young person left his or her final child welfare placement was 15.47 years ($SD = 3.94$).

The mean length of time that a young person spent in out of home placement was 4.03 years ($SD = 2.85$). With the inclusion criterion of at least one year in child welfare out of home

Table 1 – Descriptive Results for Full Sample (n = 794)

| | Frequency | Percent | Mean | Standard Deviation |
|--|-----------|---------|-------|-----------------------|
| Sex | | | | |
| Male | 391 | 49.2% | | |
| Female | 403 | 50.8% | | |
| Race | | | | |
| White | 268 | 33.8% | | |
| African-American | 526 | 66.2% | | |
| Current Age | | | 20.46 | 1.11 |
| Ever in Juvenile Detention/Mean No. Days In | 233 | 29.3% | 52.16 | 66.35 |
| Ever in County Jail/Mean No. Days In | 148 | 18.6% | 31.02 | 58.12 |
| Age at First Child Welfare Placement | | | 8.14 | 5.25 |
| Age at Leaving Last Child Welfare Placement (n = 788) | | | 15.47 | 3.94 |
| Length of Time in Placement (Years) | | | 4.03 | 2.85 |
| Number of Placements | | | 6.66 | 5.04 |
| Child Welfare Case Closed Before Age 13 | 110 | 13.9% | | |
| Drug and Alcohol Involvement (Prior to Justice System) | 190 | 23.9% | | |
| Drug and Alcohol Involvement (Overall) | 309 | 38.9% | | |
| Mental Health Involvement (Prior to Justice System) | 563 | 70.9% | | |
| Mental Health Involvement (Overall) | 681 | 85.8% | | |
| Placement Type | | | | |
| Ever in Foster Home (FH) | 653 | 82.2% | | |
| Ever in Group Home (GH) | 474 | 59.7% | | |
| Ever in Regular Residential (RR) | 284 | 35.8% | | |
| Placement Type - Ever in Only | | | | |
| Foster Home Only | 286 | 36.0% | | |
| Group Home Only | 43 | 5.4% | | |
| Regular Residential Only | 9 | 1.1% | | |
| Number of Placement Types | | | | |
| None/Other | 6 | 0.8% | | |
| One Type Only (FH, GH, or RR) | 338 | 42.6% | | |
| Two Types Total | 277 | 34.9% | | |
| All Three Types | 173 | 21.8% | | |
| Percentage of Time in Foster Home | | | 60.8% | 0.41 |
| Percentage of Time in Group Home | | | 17.9% | 0.26 |
| Percentage of Time in Regular Residential | | | 14.2% | 0.26 |

placement affecting this number being so lengthy. Considering the length of time in out of home placement and total number of placements meant that, on average, a young person experienced about 1.6 placement moves each year. The number of total child welfare placements that a young person had was 6.66 ($SD = 5.04$). Family involvement in the child welfare system was also considered, with 13.9% of the sample ($n = 110$) who had their family's child welfare case closed before age 13. Thus, this sample demonstrated that the majority of young people not only had substantial placement experiences in child welfare, but that they entered later, many left early and without aging out of the system, and that they had involvement in child welfare in adolescence.

The sample showed that a considerable portion of young people had experiences in the three main child welfare placement types of focus in this study. Over 82% of the sample had ever spent time in a foster home placement ($n = 653$). This is consistent with prior research on child welfare system experiences and delinquency, in which the majority of the sample's most frequent placement type was foster care (Lemmon, 2006). The sample also had sizeable involvement in congregate care settings. Nearly 60% of the sample had ever spent time in a group home placement ($n = 474$), and over one-third of the sample had ever spent time in a regular residential placement ($n = 284$). Another aspect of placement that included in the study was whether a young person had only ever experienced one of the three types of child welfare placements studied. Results showed there were 36% who only ever experienced foster home as their child welfare placement. For group home placement, 5.4% of the sample only ever experienced this type of placement, and for regular residential placement the frequency was 1.1% of the sample.

Also addressed in this study was whether a young person experienced multiple types of placements, with 42.6% of the sample ($n = 338$) placed in one of the three types of placements (either foster home, group home, or regular residential), 34.9% of the sample who experienced two out of the three placement types, and 21.8% with all three. The 0.8% ($n = 6$) who did not have any of these three placement types were in various other types of out of home child welfare placements, including supervised independent living and parenting programs. Finally, variables were used from the larger study that measured the total percentage of time that a young person spent in each placement in the child welfare system, with most of a young person's time spent in out of home placement in a foster home (60.8%, $SD = .41$), 17.9% ($SD = .26$) of the time a young person spent in out of home placement was in a group home, and 14.2% ($SD = .26$) was spent in a regular residential facility.

Given that children and youth who have experience in the child welfare system likely have involvement in other systems as well, measures of involvement for the drug and alcohol system as well as mental health system were used. Dichotomous measures of if they had service involvement prior to their justice system involvement were constructed, and also an overall measure of if they had ever been in each system, regardless of justice system involvement timing. Nearly one-quarter (23.9%, $n = 190$) of the sample received drug and alcohol services of some kind prior to justice system involvement, while 38.9% had drug and alcohol services overall. Approximately seventy percent of the sample received some kind of mental health services prior to justice system involvement, and 85.8% had mental health system involvement at any time during the age range studied. The child welfare system and mental health system are known for their relationship to each other and this is shown in this sample.

4.1 TRAJECTORY MODELING OF JUSTICE SYSTEM INVOLVEMENT

To analyze the trajectories of child welfare youth in the juvenile and criminal justice systems, I performed semiparametric group-based polynomial logistic regression trajectory analysis (“trajectory analysis”). The age range used for the justice system trajectories were from ages 12 to 22 years old and included outcome variables for both juvenile and criminal justice system involvement. The standard for choosing the model is consistent with the standards described in the methodology chapter, including statistical fit according to the Bayesian Information Criteria (BIC) as well as conceptual knowledge of the substantive area. I chose a five-group model based on statistical justification as well as conceptual backing. I discuss further details of this process next.

The procedure for choosing the best fit model for the justice system trajectories started by running the model with the number of groups ranging from two to six, using a cubic trend, and comparing each fit using the BIC. As Table 2 demonstrates, the BIC became increasingly lower as more groups were added to the model. Although the BIC became lower as I ran the six-group model, the percentages in each group became small (less than 5%), with the sixth group only having 6 subjects (0.8%), so this model was ruled out as a possibility. Conceptually, the five-

Table 2 - Model Fit Indices for Juvenile Placement and Jail Involvement

| Number of Groups | LogL | AIC | BIC |
|------------------|----------|----------|----------|
| 2 | -3923.66 | -3932.66 | -3953.71 |
| 3 | -3829.81 | -3843.81 | -3876.54 |
| 4 | -3747.77 | -3766.77 | -3811.20 |
| 5 | -3692.90 | -3714.90 | -3766.34 |
| 6 | -3656.33 | -3685.33 | -3753.15 |

Table 3 - Justice Systems Maximum Likelihood Estimates

| | Parameter | β | <i>SE</i> | <i>Z</i> | <i>p</i> |
|---------|-----------|---------|-----------|----------|----------|
| Group 1 | Intercept | -9.52 | 1.16 | -8.18 | <0.001 |
| | Linear | 1.47 | 0.45 | 3.24 | 0.001 |
| | Quadratic | -0.12 | 0.04 | -2.78 | 0.006 |
| 2 | Intercept | -6.16 | 0.79 | -7.84 | <0.001 |
| | Linear | 3.49 | 0.56 | 6.27 | <0.001 |
| | Quadratic | -0.72 | 0.13 | -5.70 | <0.001 |
| | Cubic | 0.04 | 0.01 | 4.68 | <0.001 |
| 3 | Intercept | -14.82 | 2.11 | -7.03 | <0.001 |
| | Linear | 3.33 | 0.58 | 5.71 | <0.001 |
| | Quadratic | -0.20 | 0.04 | -5.12 | <0.001 |
| 4 | Intercept | -7.64 | 3.95 | -1.93 | 0.053 |
| | Linear | -2.61 | 2.79 | -0.93 | 0.351 |
| | Quadratic | 1.79 | 0.67 | 2.67 | 0.008 |
| | Cubic | -0.20 | 0.05 | -3.78 | <0.001 |
| 5 | Intercept | -6.24 | 0.71 | -8.77 | <0.001 |
| | Linear | 2.72 | 0.45 | 6.02 | <0.001 |
| | Quadratic | -0.37 | 0.09 | -4.09 | <0.001 |
| | Cubic | 0.01 | 0.01 | 2.47 | 0.013 |

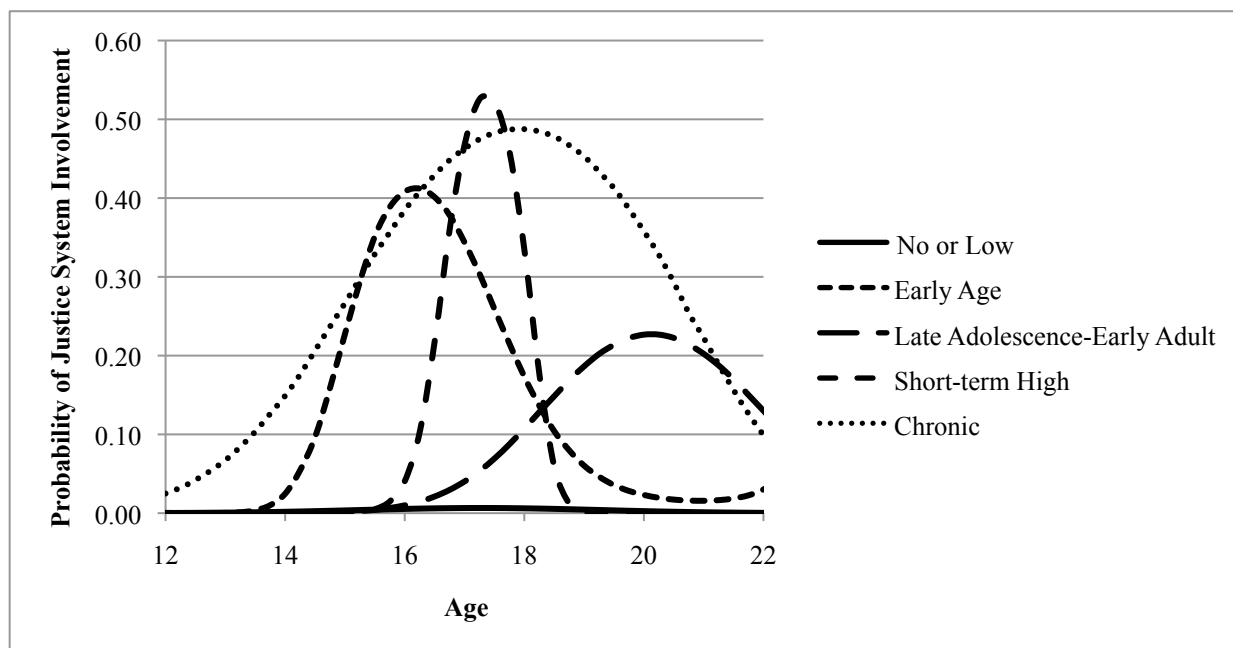
group model made sense as well. Consistent with Moffitt's (1993) and Sampson and Laub's (1993) theoretical perspectives, the majority of young people did not have substantial involvement in the justice systems, and smaller groups with higher probabilities of involvement occurred. Although this number of groups is greater than those Moffitt (1993) describes, they had conceptual similarities. For example, there were differences in groups based on the age of involvement, especially a group of "early agers" who were involved in the juvenile justice system relatively early on, but did not continue into the adult system. Also, there was a group with consistent, high probability of justice system involvement across the age range of study. Thus, based on both the BIC as well as what made conceptual sense, I chose the five-group model. Once I determined the number of groups, I adjusted the pattern of trajectory within each group (i.e., non-significant higher order effects were eliminated; Table 3).

Group 1 was the largest of the five groups, comprising 70.7% of the sample ($n = 561$) (Figure 1). This group is labeled “no or low involved” due to their overall lack of justice system involvement, and is reflected in the stable and low probability of justice system involvement in the plot (Figure 1). Across the age range from 12 to 22, subjects in this group had little to no involvement in the justice system. The second group consisted of 5.9% ($n = 47$) of the sample and was labeled the “early age” group due to their greater likelihood of involvement at younger versus older ages, peaking between ages 15 and 16. The third group comprised 7.9% ($n = 63$) of the sample and were labeled the “late adolescence-early adult” group, who tended to have justice system involvement at older ages, peaking at less than .25 probability. Group 4, the “short-term highly involved group,” consisted of 7.8% ($n = 62$) of the sample, and had low involvement overall, except for an increase during a short age period, peaking at approximately .53 probability. Finally, the fifth group, labeled “chronically involved,” were 7.7% ($n = 61$) of the group, and had the greatest justice system involvement across the age range, including both the juvenile and adult systems. This fifth group also peaked in probability of justice system involvement at approximately .50 and around the same ages, between 17 and 18, as the short-term, highly involved group.

Of note, adoption cases were included in the overall sample, and I did examine the percentage of adoption cases within each of the five justice system trajectory groups specifically as well. Of the 217 young people who were adoption cases in the study, they comprised 28% of the no/low justice system group, 36% of the early age group, 14% of the late adolescence into adult group, 29% of the short term high involvement group, and 30% of those with chronic justice system involvement. Thus, adoption cases did not constitute a majority in any of the justice system groups. While on the one hand, this is a positive, as adoption cases did not seem to

cluster all in one justice system group, on the other hand, this finding also shows that the young people who were adoption cases were not necessarily less likely to be involved in the justice system. Cases with adoption, in which a long-lasting, permanent, and hopefully prosocial bond is formed with a family, might be thought of as comprised of young people who do not have heavy involvement in the justice systems.

Figure 1 – Trajectories of Justice System Involvement



I conducted a one-way between subjects ANOVA to compare the effects of each of the variables with justice system group membership. The results of the significance tests are displayed in the first column in Tables 4 – 7. For demographics, sex ($p < .001$) and race ($p < .001$) were statistically significant, but not current age. Average number of days in juvenile ($p < .001$) and criminal justice ($p < .001$) were also significant. For child welfare variables, a number of variables were not significant: age at first placement, age at leaving last placement, length of time in placement, number of placements, experiencing only group homes, and experiencing only regular residential placements. A family's child welfare case closed before a youth was age

13 was significant ($p < .05$), as was ever being in each of the three placement types: foster home ($p < .001$), group home ($p < .05$), and regular residential placement ($p < .001$). Ever being only in foster home placement was significant ($p < .001$), as well as the percentage of total time spent in foster homes ($p < .001$). Number of each of the three main placement types that a youth had was significant ($p < .05$). In terms of other system involvement, drug and alcohol prior to the justice system ($p < .01$) and drug and alcohol overall ($p < .001$) were both statistically significant across justice system trajectory groups. Neither of the mental health variables was significant.

I calculated effect sizes for Cohen's w for each of the variable relationships, with .10 or less indicating a small effect, .30 or less medium effect size, and .50 or less large effect size. The majority of variables demonstrated a small effect size (race = .032, closed before 13 = .014, length in out of home placement = .065, ever in group home = .014, total number of placement types = .028, foster home only .029, drug and alcohol prior = .019, ever in drug and alcohol = .041, ever in foster home = .030, ever in regular residential = .030). Sex (.117) and number of placements (.138) had slightly higher effect sizes with justice system group membership than the previously mentioned variables, but these were still low.

It was expected that ever being in the juvenile or criminal justice system would be significant with justice system group membership, but effect size was used to examine the size of this relationship. Thus, the two variables that had large effect sizes with justice system group membership were ever in the juvenile justice system (.667) and ever in the adult justice system (.542). Other variables were not significant (group home only, regular residential only, mental health prior, mental health overall). As the two variables with high effect sizes were anticipated, as well as sex because of research supporting sex differences in justice system involvement, and the other variables had smaller effects, no further adjustments were necessary.

4.2 GROUP MEMBERSHIP DESCRIPTIVE RESULTS OF JUSTICE SYSTEM INVOLVEMENT TRAJECTORIES

In the next section, I provide descriptive detail of each of the preceding five justice system trajectory groups, including demographics, average number of days spent in each of the justice systems, child welfare experiences, and other system involvement.

4.2.1 Group 1 – No/Low Justice System Involvement

The no/low justice system group is generally characterized as: white, female, high percentages with their family's case closed before they were 13 years old, substantial foster home but not congregate care involvement, stability in terms of placement types, and the lowest percentage of young people who received drug and alcohol services overall. Consistent with the literature on delinquency and criminal involvement, Group 1 was mostly female and white. Specifically, they were comprised of 39.6% males ($n = 222$) and 60.4% females ($n = 339$) (see Table 4). This group was the only one of the five to have more females in it than males, and is consistent with research on non-delinquent child welfare trajectory groups being mostly female (Ayers et al., 1999). African-Americans represented 61.9% ($n = 347$) of the subjects in the no or low involvement group, while whites made up 38.1% ($n = 214$).

True to their label, this group had low involvement on both the juvenile and adult justice system measures. Table 5 presents the average number of days in the juvenile and adult justice systems (county jail) for each of the justice system groups. For the no or low involvement group the average number of days spent in the juvenile system was 9.79 days ($SD = 11.43$). This number is especially low considering the overall sample's average time spent in juvenile justice placement was 52.16 days ($SD = 66.35$). For the adult justice system measure, time spent in the county jail, the no or low involvement group had an average of 4.98 days ($SD = 6.12$), which is

Table 4 - Five-Group Demographic Descriptive Results for Justice System Trajectories

| | Full Sample (n = 794) | No/Low (n = 561) | Early Age (n = 47) | LA/Adult (n = 63) | Short Term, High (n = 62) | Chronic (n = 61) |
|------------------|--------------------------|---------------------|--------------------------|----------------------|---------------------------------|---------------------|
| Sex*** | | | | | | |
| Male | 49.2% | 39.6% | 66.0% | 76.2% | 53.2% | 93.4% |
| Female | 50.8% | 60.4% | 34.0% | 23.8% | 46.8% | 6.6% |
| Race*** | | | | | | |
| White | 33.8% | 38.1% | 34.0% | 31.7% | 16.1% | 13.1% |
| African-American | 66.2% | 61.9% | 66.0% | 68.3% | 83.9% | 86.9% |
| Current Age | 20.46 (1.11) | 20.41 (.05) | 20.42 (.17) | 21.12 (.12) | 20.29 (.14) | 20.44 (.15) |

* $p < .05$

** $p < .01$

*** $p < .001$

also low given that the full sample's average was 31.02 days ($SD = 58.12$). Consistent with their group label, this group had the lowest number of days in the justice systems across groups.

The no/low justice system group had the highest percentage of subjects who had their family's child welfare cases closed before the age of 13, with 16.2% ($n = 91$), which is about three times the percentage of young people in the chronic justice system group with their

Table 5 – Five-Group Descriptive Results for Justice System Trajectories - Justice System Involvement

| | Full Sample (n = 794) | No/Low (n = 561) | Early Age (n = 47) | LA/Adult (n = 63) | Short Term, High (n = 62) | Chronic (n = 61) |
|---|--------------------------|-----------------------------|------------------------------|------------------------------|---------------------------------|------------------------------|
| Mean Number of Days in Juvenile Detention*** (n = 231) | 52.16 (66.35) | 9.79 (11.43) (n = 43) | 64.03 (65.00) (n = 45) | 37.30 (51.34) (n = 21) | 62.11 (66.32) (n = 61) | 59.31 (41.14) (n = 61) |
| Mean Number of Days in County Jail*** (n = 145) | 31.02 (58.12) | 4.98 (6.12) (n = 27) | 9.27 (13.63) (n = 11) | 27.57 (50.10) (n = 59) | 1.50 (1.00) (n = 4) | 59.75 (79.82) (n = 44) |

* $p < .05$

** $p < .01$

*** $p < .001$

family's case closed at that age (Table 6). Variables for age and placement (age at first placement, age at leaving last placement) and general placement experiences (length of time in placement, number of placements) were not statistically significant.

For specific placement types, the group with the highest percentage of experiences in foster care was the no or low involvement justice system group (85.6%) (see Table 6). They were also the group with the highest percentage of foster home experiences only (40.8%). This group had the least percentage of young people with experiences in group homes (56.1%). Finally, the no or low involvement justice system group was the one with the most subjects to have only one of the three placement types (46.0%), thus having more stability in the types of placement they experienced. The no/low justice system group had substantial experiences in foster homes. Because foster homes are intended to be family-like with close, prosocial relationships with adults, it is consistent that this is the group with little to no justice system involvement, as these experiences may provide a protective influence. Similarly, they do not have high involvement in congregate care settings.

Next, I examined other system involvement, in the form of measures of drug and alcohol and mental health system involvement both prior to entry into the justice systems as well as overall, for the no or low justice system involvement group. Although the drug and alcohol variables were significant across justice system groups, the mental health variables were not. Nearly 24% of subjects in this group had involvement in the drug and alcohol system prior to any justice system involvement. This number is consistent with the overall sample's percentages that experienced drug and alcohol system involvement prior to the justice systems (23.9%). The no or low justice system group did have the lowest overall involvement in the drug and alcohol system of the justice system groups, with 32.6% having overall involvement (Table 7). For

Table 6 - Five-Group Descriptive Results for Justice System Trajectories – Child Welfare Variables

| | Full Sample (n = 794) | No/Low (n = 561) | Early Age (n = 47) | LA/Adult (n = 63) | Short Term, High (n = 62) | Chronic (n = 61) |
|--|-----------------------------|---------------------|--------------------------|----------------------|---------------------------------|---------------------|
| Age at First Child Welfare Placement | 8.14 (5.25) | 8.05 (.22) | 8.23 (.76) | 8.73 (.66) | 7.44 (.71) | 9.01 (.65) |
| Age at Leaving Last Child Welfare Placement | 15.47 (3.94) | 15.27 (4.09) | 15.75 (3.60) | 16.41 (3.17) | 15.45 (4.41) | 16.21 (2.52) |
| Length of Time in Placement | 4.03 (2.85) | 4.10 (.12) | 4.29 (.47) | 3.54 (.27) | 4.01 (.36) | 3.72 (.30) |
| Number of Placements | 6.66 (5.04) | 6.42 (.18) | 6.30 (.81) | 8.40 (.93) | 8.08 (.98) | 5.98 (.44) |
| Child Welfare Closed Before Age 13* | 13.9% | 16.2% | 8.5% | 6.3% | 12.9% | 4.9% |
| Placement Type | | | | | | |
| Ever in Foster Home*** | 82.2% | 85.6% | 74.5% | 74.6% | 83.9% | 63.9% |
| Ever in Group Home* | 59.7% | 56.1% | 68.1% | 69.8% | 64.5% | 70.5% |
| Ever in Regular Residential*** | 35.8% | 30.8% | 48.9% | 55.6% | 35.5% | 50.8% |
| Placement Type – Ever in Only | | | | | | |
| Foster Home Only*** | 36.0% | 40.8% | 25.5% | 22.2% | 30.6% | 19.7% |
| Group Home Only | 5.4% | 4.8% | 8.5% | 4.8% | 4.8% | 9.8% |
| Regular Residential Only | 1.1% | 0.4% | 4.3% | 1.6% | 1.6% | 4.9% |
| Number of Placement Types* | | | | | | |
| None – Other Placement Type | 0.8% | 0.5% | 0.0% | 0.0% | 3.2% | 1.6% |
| One Type Only (FH, GH, or RR) | 42.6% | 46.0% | 38.3% | 28.6% | 37.1% | 34.4% |
| Two Types Total | 34.9% | 33.9% | 31.9% | 42.9% | 32.3% | 41.0% |
| All Three Types | 21.8% | 19.6% | 29.8% | 28.6% | 27.4% | 23.0% |
| Percentage of Time in Foster Home*** | 60.8% (.41) | 66.2% (.40) | 52.0% (.42) | 47.0% (.42) | 58.2% (.41) | 34.8% (.41) |
| Percentage of Time in Group Home*** | 17.9% (.26) | 15.3% (.24) | 22.8% (.31) | 23.7% (.28) | 21.8% (.29) | 28.7% (.32) |
| Percentage of Time in Regular Residential*** | 14.2% (.26) | 12.2% (.24) | 18.2% (.28) | 24.7% (.33) | 9.2% (.19) | 23.6% (.31) |

* $p < .05$

** $p < .01$

*** $p < .001$

Table 7 - Five-Group Descriptive Results for Justice System Trajectories – Other System Involvement

| | Full Sample (n = 794) | No/Low (n = 561) | Early Age (n = 47) | LA/Adult (n = 63) | Short Term, High (n = 62) | Chronic (n = 61) |
|--|-----------------------------|---------------------|-----------------------|----------------------|------------------------------------|---------------------|
| Drug and Alcohol Involvement (Prior to Justice System)** | 23.9% | 23.4% | 21.3% | 42.9% | 16.1% | 19.7% |
| Drug and Alcohol Involvement (Overall)*** | 38.9% | 32.6% | 48.9% | 54.0% | 56.5% | 55.7% |
| Mental Health Involvement (Prior to Justice System) | 70.9% | 72.4% | 72.3% | 66.7% | 58.1% | 73.8% |
| Mental Health Involvement (Overall) | 85.8% | 85.2% | 95.7% | 81.0% | 82.3% | 91.8% |

* $p < .05$

** $p < .01$

*** $p < .001$

mental health involvement both prior to any justice system involvement as well as overall, their percentages remained similar to the overall sample.

4.2.2 Group 2 – Early Age Justice System Involvement

The second justice system group, those with early age involvement in the justice systems, tended to be male, African-American, and with less foster home experiences but more congregate care experiences than the no/low justice system group. This group was characterized by having the highest average number of days spent in the juvenile justice system of any of the five justice system trajectory groups ($M = 64.03$, $SD = 65.00$) (see Table 5). Nearly everyone in this group had juvenile justice involvement and it peaked around ages 15 and 16 and then decreased. They had relatively low involvement in the adult justice system as evidenced by the county jail measure ($M = 9.27$, $SD = 13.63$), hence the “early age” label.

For demographics, Group 2, which had early age involvement, were two-thirds male and one-third female. In terms of race, this group was comprised of 66% African-Americans, which

is comparable to the overall sample (see Table 4). For child welfare variables, they had more congregate care experiences (ever in group home = 68.1%, ever in regular residential = 48.9%), but less foster home experiences than the no/low justice system group. The early age group had less young people with foster home experiences only than the no/low justice system group. For placement types, the early age group had less young people with only one placement type than the no/low group, and more people with all three placement types. The early age group had 21.3% of subjects with drug and alcohol involvement before entering the justice systems, which is slightly less than the overall sample as well as the no/low justice system group, and 48.9% had drug and alcohol system involvement overall (see Table 7). They had a higher percentage of overall drug and alcohol involvement than group 1. The mental health variables were not statistically significant across groups, but the early age group did have the highest percentage of overall mental health involvement than the other groups (95.7%). When comparing results across justice system groups, levels of other system involvement were high, as nearly everyone in the early age group received mental health services at some point in the age range.

This trajectory group is similar to Moffitt's (1993) adolescent-limited group in that this group's justice system involvement does not continue into adulthood. This study's sample focuses on child welfare experiences in relation to justice system involvement, and they also had considerable involvement in child welfare placements, as this group had the second highest percentage of those with regular residential facilities involvement.

4.2.3 Group 3 – Late Adolescence into Adult Justice System Involvement

Group 3, those with late adolescence into adult justice system involvement, were more likely to be male, slightly more likely to be African-American than the overall sample, and had fewer foster home experiences and more congregate care experiences than the no/low justice

system group. This group had less than the full sample's mean for number of days spent in the juvenile justice system ($M = 37.30$, $SD = 51.34$), with one-third of Group 3 having juvenile justice system experiences (Table 5). They also had the second highest amount of involvement in the adult justice system, using the county jail measure ($M = 27.57$, $SD = 50.10$). Their justice system involvement began around ages 16 and 17 and peaked around ages 20 and 21.

For demographics, this group had 76.2% males, and 68.3% African-Americans. In terms of their child welfare experiences, they had less young people with their family's child welfare case closed before age 13 (6.3%) than the no/low justice system group (16.2%). The late adolescence into adulthood group had less young people who were ever in foster homes (74.6%) and more in congregate care settings (ever in group home = 69.8%, ever in regular residential = 55.6%) than the no/low justice system group. This group also had less young people who only ever experienced foster home placements (22.2%) than the no/low group. They had the highest percentage across the justice system groups of young people with regular residential placement experiences (55.6%). They were also the group with the lowest percentage of young people who had one placement type only (28.6%) and were amongst the highest groups with two (42.9%) or all three placement types (28.6%). Compared to the other justice system groups, they had the highest percentage of total time spent in the regular residential placement type (24.7%).

For other system involvement, the late adolescence into adult justice system group had the largest percentage of subjects involved in the drug and alcohol system prior to the justice system, with 42.9%, and 53.0% overall (see Table 7). Because they were involved in the justice system later, it makes sense this group would have the largest percentage of prior drug and alcohol involvement. Their percentage of prior and overall drug and alcohol involvement did not change considerably, indicating that as they grew older, there was not a substantial increase in

drug and alcohol service use for this group as they became young adults. While the measures for other system use for the late adolescence to adult group were low in comparison to the other groups, it is worth noting that these results still show high percentages, as only about 1 in 5 young people in the late adolescence to adult group did not receive mental health services.

The main goal of this study was not explicitly on assessing how Moffitt's (1993) taxonomy did or did not fit using a sample of young people exclusively with substantial experiences in out of home placement, but one important distinction in the findings is worth noting here. Moffitt (1993) identifies a group in the general population of chronic offenders who have quite consistent justice system experiences from youth into young adulthood. However, the group in this sample who has consistent justice system involvement but starts at older adolescent ages, are not easily categorized into Moffitt's (1993) life-course persistent group.

4.2.4 Group 4 – Short-term, High Justice System Involvement

Group 4, the short-term, highly involved group, had slightly more males and had a high number of African-Americans when compared to the overall sample. They had substantial experiences in foster homes that were comparable to the no/low justice system group, but had more congregate care experiences. Next to the early age justice system group, they had the highest average days spent in juvenile justice placement ($M = 62.11$, $SD = 66.32$), and nearly everyone in the group had such involvement (see Table 5). They did not have substantial involvement in the adult justice system, as they had the lowest number of days in the county jail ($M = 1.50$, $SD = 1.00$). This percentage is even lower than the overall sample as well as Group 1, those with no or low justice system involvement. The short-term involvement group may have had a relatively smaller period of time for justice system involvement, but were also characterized by a higher probability than other groups when they did have involvement.

In terms of demographics, Table 4 shows this group was 53.2% male, and African-Americans consisted of 83.9% of the group (n = 52). This high percentage of African-American young people is consistent with existing research on the overrepresentation of youth of color in the justice systems.

For child welfare placement experiences, this group was the second-highest with their family's child welfare cases closed before adolescence (12.9%), next to the no/low justice system group. For child welfare placement types, the short term high justice system group had substantial involvement in foster homes as well as congregate care settings. Compared to the no/low involvement justice system group, they were the second-highest group with percentage of subjects who had foster home experiences (83.9%); similarly, they were also second-highest for having foster home as the only placement type (30.6%). They differed from the no/low justice system group in that the short term, high involvement group also had substantive placements of ever in group homes (64.5%) but percentage of young people who ever had regular residential placements (35.5%) that was comparable to the no/low justice system group (30.8%).

The short term, highly involved group had the lowest percentage of drug and alcohol system involvement prior to the justice systems, with 16.1% (n = 10), but had the highest percentage of involvement overall in the drug and alcohol system, with 56.5% (Table 7). This shows that they did receive drug and alcohol services, but suggests that justice system involvement or some other factor placed a role in this spike in drug and alcohol involvement. The also had the lowest percentage of prior mental health system involvement of the groups, with 58.1%, as well as the lowest percentage of overall mental health involvement (82.3%). While the mental health percentages are low in relation to the other justice system groups, they are still very high percentages of young people involve in multiple systems.

Because of their justice system involvement only for a short time during their late adolescent years, this group in some ways fits in with Moffitt's (1993) general population delinquency group of those who are "adolescent-limited." However, they differ in that the justice system group in this study specifically had child welfare system experiences whereas Moffitt describes the general population. This group shows a specific timeframe of juvenile justice system involvement in late adolescence. To an extent, this involvement is expected (Catalano & Hawkins, 1996), as youths are experiencing a transition period of physical changes and peer pressure. Many young people have negligible experiences with the justice system, and for a fairly short period of time (Ayers et al., 1999). Moreover, drawing from a sample of young people with foster care experiences, one study found that those who offended over a relatively short period exhibited the offending behavior at around age 18, which also aligned with their foster care involvement (Ryan et al., 2010) and during late adolescence.

The short term, high involvement group also had some similarities with the no/low justice system group for foster home experiences. However, the short term, high involvement group had more experiences in group homes, but their percentages of involvement in regular residential were relatively low compared to the other groups, as they had the lowest percentage of total time spent in regular residential placements (9.2%) across justice system groups.

4.2.5 Group 5 – Chronic Justice System Involvement

The fifth group, those with chronic justice system involvement, consisted of mostly males and young people who were African-American. They were overwhelmingly male, at 93.4% ($n = 57$) (see Table 4). This group also had a higher percentage of African-Americans than the overall sample average, with 86.9% ($n = 53$). Consistent with their group label, for juvenile justice, the chronic group had a mean of 59.31 days ($SD = 41.14$) in the system, and for county jail, 59.75

days ($SD = 79.82$), which was the most across the groups (Table 5). They demonstrated the earliest involvement in the juvenile justice system of the trajectory groups, and carried this involvement into adulthood.

This group is characterized by their rich history of child welfare placement types. The chronically involved group had the lowest percentage of their family's cases closed before age 13, with 4.9% (see Table 6). In terms of placement type, the chronic justice system group had more experiences in congregate care settings, as they had the smallest percentage of subjects who were ever in foster homes (63.9%), the highest percentage of those ever in group homes (70.5%), and were second-highest (to the late adolescence into adult justice system group) for regular residential placements (50.8%). Their percentages of time in each placement type are reflective of these numbers, as they had the lowest percentage of time spent in foster homes, the highest percentage in group homes, and the second highest percentage in regular residential placements. The chronic group had less young people with one placement type only when compared to the no/low justice system group; they also had more young people with all three placement types than the no/low group, further highlighting their experiences in congregate care settings.

Group 5, those with chronic involvement in the justice system, had a relatively low percentage of subjects who had drug and alcohol system involvement prior to entering the justice systems (19.7%), but a higher involvement overall (55.7%) than other justice system groups (Table 7). They did not receive drug and alcohol services early on but rather once they were involved in the justice systems. While mental health was not significant across groups, The chronic group did have the highest percentage of prior mental health system involvement, with 73.8%, and the second-highest percentage of overall mental health involvement (91.8%). Thus,

this group not only demonstrated high involvement in the justice systems and child welfare system, but also the mental health system as well.

Finally, this fifth justice system trajectory group is congruent with Moffitt's (1993) taxonomy of the "life-course persistent" offenders, who demonstrate chronic delinquent and criminal behavior from adolescence into young adulthood. This group also comprised a small number within the larger sample, as Moffitt (1993) similarly asserted. The majority of young people with substantial out of home placement experiences in the child welfare system do not then age into a life of crime. Although the age range in this study does not extend further into the life course, it nevertheless demonstrates that this small group of chronic offenders exists not only in the general population, but this child welfare sample as well.

4.2.6 Percentages of Mental Health Service Use Type by Justice System Group Membership

Because of the heavy service use of mental health services in the sample, I examine this in more detail in this section. I examined mental health service use type further using details of young people's receipt of services as presented in Table 8. The drug and alcohol system variables are only used dichotomously in this study, as they did not scale. I focused on seven specific types of mental health services: crisis, family-based, medication, partial hospitalization, outpatient, inpatient, and intensive case management administration. Previous research from the larger study included a mental health service intensity scores that was constructed by running an exploratory factor analysis using maximum-likelihood extraction on a polychoric correlation matrix (see: Shook et al., 2011, for a more detailed explanation). This service intensity measure was constructed by adding the number of service types for each subject based on whether or not he or she received that specific service type, ranging from not severe (0) to most severe (7). I was able to include this detailed mental health information in this study, and the percentages of each

of these are presented next for each of the justice system trajectory groups. I performed a one-way between-subjects ANOVA to compare the mental health services across justice system group membership (Table 8). The service variables that were significant for mental health were: crisis ($p < .001$), partial ($p < .05$), inpatient ($p < .05$), and intensive case management administration ($p < .05$).

Table 8 - Percentages of Mental Health Service Use Type by Justice System Group Membership

| | Full Sample (n = 794) | No/Low (n = 561) | Early Age (n = 47) | LA/Adult (n = 63) | Short Term, High (n = 62) | Chronic (n = 61) |
|---|--------------------------|---------------------|--------------------------|----------------------|------------------------------------|---------------------|
| Crisis*** | 23.3% | 19.3% | 40.4% | 27.0% | 25.8% | 41.0% |
| Family-based | 14.7% | 13.4% | 19.1% | 14.3% | 14.5% | 24.6% |
| Medication | 52.1% | 50.1% | 61.7% | 58.7% | 50.0% | 59.0% |
| Partial* | 16.0% | 13.4% | 23.4% | 22.2% | 19.4% | 24.6% |
| Outpatient | 66.5% | 66.7% | 68.1% | 63.5% | 64.5% | 68.9% |
| Inpatient* | 23.8% | 22.3% | 42.6% | 27.0% | 17.7% | 26.2% |
| Intensive Case Management Administration* | 59.8% | 56.7% | 72.3% | 68.3% | 59.7% | 70.5% |

* $p < .05$

** $p < .01$

*** $p < .001$

Examined in detail, there are notable differences in specific mental health services usage by the justice system trajectory groups (see Table 8). The first finding that I highlight here is that two specific groups utilized a greater amount of mental health services, as results demonstrated the highest usage of mental health services were the early age involvement group and the chronic justice system involvement group. The early age and chronic groups had the highest percentages of use of crisis services (early age = 40.4%, chronic = 41.0%), family-based services (19.1%, 24.6%), medication management (61.7%, 59.0%), partial hospitalization (23.4%, 24.6%), outpatient services (68.1%, 68.9%), and case management (72.3%, 70.5%) (Table 8).

Group 3, those with late adolescence into adult justice system involvement, did have the second-highest percentage of inpatient service usage (27.0%) compared to the early age group (42.6%), but was followed closely by the chronic justice system group (26.2%). The high inpatient involvement of the chronic group highlights their involvement in other systems, as they are likely staying in mental health facilities as their housing at times. The high inpatient stays of the early age group could be related to their heavy child welfare involvement as well, in that they spend relatively early ages in the juvenile justice system, have experiences in child welfare placements generally around this time as well, and due to the relationship between child welfare and mental health, can more easily than others utilize inpatient mental health services, as part of what Maschi and colleagues label “the social justice sectors of care” (2008, p. 1383). While the early age group was younger while in the juvenile justice system, they also have involvement in child welfare and mental health, including inpatient services, which may help explain their absences in the justice systems later on.

To summarize, consistency in the high percentages of mental health services types used by those in the sample remained in the early age and chronic justice system groups throughout the mental health descriptive information.

Mental health service intensity scores were consistent with mental health system involvement. The average mental health service intensity score was significant across the justice system groups ($p = .021$) (Table 9). The overall sample had a mean services intensity score of 2.76 ($SD = 2.11$) and the no/low justice system group had a mean of 2.62 ($SD = 2.04$). Consistent with service utilization, the two groups with the highest average service intensity scores had the most mental health involvement. The scores ranged from not severe (0) to most severe (7), and the early age justice system group had a mean of 3.40 ($SD = 2.23$) while the

chronic justice system group had a mean of 3.31 ($SD = 2.15$). This suggests that the two groups with the most mental health problems are receiving mental health services, although their justice system involvement, especially for the chronic group, is still troubling. The late adolescence into adult justice system group ($M = 2.95$, $SD = 2.22$) and the short-term, high involvement group ($M = 2.82$, $SD = 2.32$) also had average services intensity scores higher than both the overall sample

Table 9 - Percentages of Mental Health Service Intensity Score by Justice System Group Membership

| | Full Sample (n = 794) | No/Low (n = 561) | Early Age (n = 47) | LA/Adult (n = 63) | Short Term, High (n = 62) | Chronic (n = 61) |
|-------|--------------------------|---------------------|--------------------------|----------------------|------------------------------------|---------------------|
| 0 | 22.9% | 23.4% | 17.0% | 25.4% | 29.0% | 14.8% |
| 1 | 8.6% | 9.1% | 6.4% | 4.8% | 6.5% | 11.5% |
| 2 | 14.6% | 16.8% | 12.8% | 11.1% | 9.7% | 4.9% |
| 3 | 15.6% | 16.4% | 10.6% | 14.3% | 8.1% | 21.3% |
| 4 | 15.6% | 15.2% | 14.9% | 12.7% | 22.6% | 16.4% |
| 5 | 11.0% | 8.9% | 21.3% | 20.6% | 8.1% | 14.8% |
| 6 | 7.6% | 7.1% | 8.5% | 6.3% | 11.3% | 8.2% |
| 7 | 4.2% | 3.2% | 8.5% | 4.8% | 4.8% | 8.2% |
| Mean* | 2.76 (2.11) | 2.62 (2.04) | 3.40 (2.23) | 2.95 (2.22) | 2.82 (2.32) | 3.31 (2.15) |

Note: Significance test only performed on the mean service intensity score across groups.

* $p < .05$

** $p < .01$

*** $p < .001$

as well as the no/low justice system group.

Child welfare system involvement acts as a gateway to other services (Woodhouse, 2007), and this multi-system involvement is demonstrated in the details of the groups' mental health system involvement. Maschi and colleagues' (2008) social-justice conceptual framework for multiple system involvement is applicable to understanding mental health system involvement in the sample. The social-justice framework asserts the "cycle of services" in that young people often become involved in one system, and then stay involved in one system or

another as well (Maschi et al., 2008). The high percentage of mental health service involvement across the groups and service types demonstrates the interrelationship between the child welfare and mental health systems. Moreover, some groups of young people have higher percentages of involvement, and certain types of involvement. The early age and chronic justice system groups demonstrated the most use of mental health services in addition to having the highest services intensity scores. This is consistent with previous research that found a match in a foster care sample between those with the most mental health need receiving relatively more services (Garland, Landsverk, Hough, & Ellis-MacLeod, 1996). Given their higher probabilities of justice system involvement in this study, the results show the relationships between multiple service involvement, as well. Moreover, across groups heavy mental health service involvement indicates that further study of the multi-system relationships is valuable.

4.2.7 Summary of Justice System Trajectory Groups

To summarize the justice system trajectory groups analysis, most young people in the sample had no or low justice system involvement, while a smaller percentage did have such involvement. Variation exists within those that do have justice system involvement. The finding that the majority of young people in the child welfare system do not also have involvement in the justice systems is consistent with other research in this area as well as those with justice system involvement. The precedent study on this topic, by Widom (1989a), found that approximately one-quarter of young people were involved in juvenile offenses. DeGue and Widom (2009) found slightly higher numbers with a slightly different sample, with approximately 30% of young people had a juvenile arrest history, and 45% experienced arrest as an adult. In Stewart and colleagues' (2008) child welfare sample, 27% had juvenile offenses. Thus, this study's finding of no/low justice system involvement for the majority of young people is relatively

consistent with overall research; this is especially true considering that the outcome measures used in this study, juvenile justice placement and being confined in the county jail, are more restrictive than front-end measures such as arrests.

Furthermore, of greater interest are the variations within justice system involvement of the justice system trajectory groups, as there are these small groups who do become involved in the juvenile and adult justice systems at different ages and with varying probabilities of involvement. Guided by Moffitt's (1993) developmental taxonomy, variations in justice system experiences are expected, but the analysis here demonstrates that there are possibly more variations within the existing categories, at least for those with child welfare system experiences. Consistent with Moffitt (1993), most young people demonstrate no or low involvement in the justice systems. However, Moffitt describes three groups total for the general population, while this study, focused on child welfare youth with substantial involvement in out of home placement, found five different groups.

The second group Moffitt identifies is a group of adolescent-limited offenders who are involved as youths but do not continue their illegal behavior when they become adults. Two groups from this analysis have similarities with the adolescent-limited offenders that Moffitt described: the short term, highly involved justice system group, and the early age group. While both are adolescent-limited in that their justice system involvement does not extend into the adult measures (or, for the short term group, extends slightly after age 18), the early age justice system trajectory aligns better with Moffitt's description of young people who experience involvement early on, and then it gradually decreases.

The third group which Moffitt's (1993) taxonomy identifies are those with chronic delinquency and criminality throughout adolescence and into adulthood. Two groups in this

analysis also had similar characteristics to those of this chronic group. The chronic group in my trajectory analysis fit with Moffitt's taxonomy in that they had consistent justice system involvement throughout the study's age range. The late adolescence into adult justice system group also fit somewhat with Moffitt's chronic group. Although they did not show justice system involvement across the age range in the study, they still had considerable justice system involvement starting at age 17. They did not have much formal justice system involvement before this age, and it is beyond this study to identify specifically what was occurring in their lives prior to age 17. However, they did show an increasing probability of justice system involvement into adulthood. Also, Moffitt (1993) asserts that the chronic group comprises a small portion of the overall adolescent population, and the results from this analysis for a child welfare sample demonstrate such a similarity. However, given the differences in specific trajectory groups between this study and Moffitt's theoretical framework, it is possible that more variation in justice system experiences exists for child welfare youth with out of home placement experiences when compared to the general population.

In addition to Moffitt's (1993) developmental taxonomy, the justice system trajectory group results also are further understood utilizing Sampson and Laub's (1993) age-graded life-course perspective, particularly the concept of "turning points." This study provides a foundation for identifying which factors are related to justice system group membership, and the descriptive results of each trajectory group highlight the different group characteristics and experiences. When compared to the no/low justice system group, each of the groups had similar or less foster home experiences, but overall, the four groups with variations in justice system involvement had more experiences in congregate care settings. What differentiates these groups, then, are the types of placements they experienced, and could be a "turning point" of sorts. This could also be

further extended when comparing the groups who had substantial justice system involvement with each other. For example, the early age group spent more time in foster homes than the chronic group, and less time in congregate care settings. The chronic justice system group also had fewer young people with their family's child welfare case closed before age 13 than any group, including the early age group. This indicates that the timing of when a child welfare case occurred for a family can also contribute to distinguishing these groups. While not every potential turning point is examined in this study, the utility of applying Sampson and Laub's (1993) theoretical perspective is that variables can begin being identified that might be key to the variations of justice system involvement among young people with child welfare placement experiences.

The third theoretical framework, the social-justice model, acknowledges the role of individual and system factors as they contribute to system involvement, such as sex, being a person of color, and issues related to mental health and substance abuse (Maschi et al., 2008). Consistent with this framework, then, most of these variables were significant between the justice system groups. While the mental health variables were not statistically significant, the high percentages of young people within each group who received such services (with at least one group who had nearly all of its members receiving mental health services) show the high percentages of young people with multiple system involvement.

The model also discusses systems in the experiences of youth across multiple systems, and the significant findings of differences in drug and alcohol system involvement, as well as when comparing their service usage from before justice system involvement to overall is worth noting. Maschi and colleagues' (2008) assert that there exists a "cycle of services" that young people can easily become wrapped up in. The differences in percentages for drug and alcohol

involvement, using a basic timing measure, indicate that timing is important when considering drug and alcohol involvement. They also suggest that justice system involvement plays a role in accessing this specific service, especially as the no/low justice system group had the lowest percentage across groups with overall drug and alcohol involvement. By identifying justice system trajectory groups, and specifically examining more about the groups who are more at risk in terms of their demographics, child welfare experiences, and other system experiences, our policies, programs, and dialogue can more effectively address their needs.

4.3 MULTINOMIAL LOGISTIC REGRESSION

I performed multinomial logistic regression on justice system trajectory groups as predicted by risk factors. The objective of the regression was to examine the differences for group membership as related to various factors, including demographics, child welfare system experiences, and involvement in other systems. Of particular interest was the role of child welfare placement variables, and to address the potential differences in justice system group membership as they related to child welfare placement. Specifically, I chose regression to examine whether young people from less family-like settings (group homes, regular residential placements) would be more likely to have high justice system involvement than those in more family-like settings, particularly foster homes.

I utilized nine independent variables, covering the three main areas of interest of demographics, child welfare experiences, and involvement in the drug and alcohol and mental health systems, for the regression model. For demographic variables, I included sex and race, and the same operationalizations were used as for previous analyses (sex: male/female, race: white/African-American). The reference group for sex was female, and the reference group for

race was whites. For the independent variables, multinomial logistic regression automatically chooses the last category as the reference category, and this was how the data were coded.

For child welfare experiences, I used five variables. I constructed four of these in the same way as previously described in the methods section. First was a dichotomous measure of whether a youth's family had their child welfare case closed before age 13. I used this as a proxy for addressing adolescent involvement of a family in the child welfare system. Second, to address aspects of placement experiences, I included length in out of home placement (in years) and the total number of child welfare placements that a subject had. I used age at first child welfare placement to also address when a young person first experienced out of home placement in the child welfare system.

The fifth child welfare placement variable, was constructed specifically for the regression analysis. Because of the high involvement of young people in both group home and regular residential placement types, I constructed a variable of "ever in congregate care" summing these two child welfare placement variables. This allowed for streamlined comparisons between group settings and more family-like (foster home) child welfare placement settings. Other studies have collapsed group home and residential facilities in an institutional setting variable when addressing mental health needs of child welfare youth (Burns et al., 2004). Both group homes and regular residential facilities are settings that generally serve more young people than in a foster home or other home-like setting, and typically keep a scheduled daily routine for the youths, which may limit a young person's individual development through school or after-school activities (Barth, 2002). While group homes and regular residential placements do have differences that were important to provide as detail for the trajectory group analysis, for the

purposes of the regression their similarities as institutional settings when compared to young people not in such settings was consistent with the goal of this specific analysis.

In regard to the involvement of young people in systems other than child welfare and the justice systems, I included measures of ever in the drug and alcohol system as well as the mental health system in the regression model. Although the additional analyses in this study include measures of both prior drug and alcohol and mental health involvement in addition to overall measures, I utilized the overall measures for this specific analysis. The reason for using the overall measures was that it was consistent with the child welfare experiences measures, which were not limited to experiences before justice system involvement. Although this limits interpretation of findings due to unknown timing, the overall measure provided a longer time period for other system involvement similar to that of the child welfare variables, and relationships between the variables are still addressed.

I examined diagnostic tests to address the issue of multicollinearity of the categorical variables before running the main regression analysis (Table 10). The variance inflation factors (VIFs) demonstrated that multicollinearity was not an issue for each of the independent variables. A VIF needs to be greater than .01 but less than 10 in order to show that there are no collinearity issues, and each of the variables for this regression demonstrated this. Similar results occurred for the tolerance of each variable. If a tolerance score for a variable is less than .25, and particularly if it is approaching zero, then multicollinearity is likely an issue. Each of the tolerance scores for the independent variables were approaching 1, and therefore not an issue and I continued with the regression analysis. Overall, the results of the regression showed there was a significant prediction of justice system group membership by the independent variables, $\chi^2(36, N = 794) = 228.51, p < .001$, Nagelkerke $R^2 = .29$.

Table 10 – Multicollinearity for Justice System Group Membership

| | VIF | Tolerance |
|---------------------------------------|-------|-----------|
| Sex | 1.034 | 0.967 |
| Race | 1.078 | 0.928 |
| Drug and Alcohol (Overall) | 1.151 | 0.869 |
| Mental Health (Overall) | 1.185 | 0.844 |
| Closed Before Age 13 | 1.133 | 0.883 |
| Length in Out of Home Placement | 1.297 | 0.771 |
| Number of Child Welfare Placements | 1.433 | 0.698 |
| Age at First Placement | 1.156 | 0.865 |
| Ever in Congregate Care | 1.337 | 0.748 |

The regression made comparisons for each of the four justice system groups who had substantive involvement compared to the first group, those with no to low justice system involvement. In comparing the early age justice system group to those who had little to no justice system involvement, the only statistically significant predictor of justice system group membership was sex in that males were more than three times as likely to be in the early age justice system group than the no/low justice system group compared to females (see Table 11). This finding is consistent with research on non-delinquent child welfare trajectory groups in that those with little to no involvement were mostly female (Ayers et al., 1999).

For the late adolescence into adult justice system group as compared to those with no or low involvement, sex, overall drug and alcohol involvement, overall mental health involvement, length in years, and number of child welfare placements were significant predictors of group membership, although there was a negative relationship for mental health involvement. Sex was a significant predictor of group membership, $B = 2.048$, $\chi^2(1) = 36.696$, $p < .001$, $\exp(B) = 7.752$

Table 11 - Multinomial Logistic Regression for Justice System Involvement

| | Early Age | Late Adol/Adult | Short Term, High | Chronic |
|---------------------------------------|-----------|--------------------|---------------------|----------|
| | OR | OR | OR | OR |
| Sex (Reference Group: Female) | 3.26*** | 7.75*** | 2.17** | 27.56*** |
| Race (Reference Group: White) | 1.32 | 1.37 | 3.33** | 5.26*** |
| Drug and Alcohol (Overall) | 1.82 | 2.17** | 3.03*** | 2.33** |
| Mental Health (Overall) | 3.03 | 0.44* | 0.62 | 1.72 |
| Closed Before Age 13 | 0.57 | 0.43 | 0.89 | 0.35 |
| Length in Out of Home Placement | 1.10 | 0.85* | 0.91 | 0.93 |
| Number of Child Welfare Placements | 0.97 | 1.12*** | 1.07** | 0.98 |
| Age at First Placement | 0.98 | 1.00 | 0.98 | 0.99 |
| Ever in Congregate Care | 1.68 | 1.64 | 0.97 | 2.78** |

Note. Reference group for all regression comparisons is the no/low justice system group.

* $p < .05$

** $p < .01$

*** $p < .001$

(see Table 11). Males were nearly eight times more likely to be in the late adolescence into adult justice system group than the no/low justice system group compared to females. Racial differences were not statistically significant when comparing predictors between these two groups. Length in out of home child welfare placement was significant between those with late adolescence into adult justice system involvement when compared to those with no or low justice system involvement. This result indicates that subjects with more time in out of home placements were actually less likely to be in the late adolescence into adult justice system group than in the no/low justice system group. Number of child welfare placements was significant for group membership in the late adolescence into adulthood group compared to the no/low justice system group $B = .109$, $\chi^2(1) = 14.162$, $p < .001$, $\exp(B) = 1.12$. This is a particularly interesting

finding given that most research supports that placement instability is related to justice system involvement (Ryan & Testa, 2005) in that more time spent in out of home placement was somewhat beneficial, then, for the group with justice system involvement from late adolescence into young adulthood, whereas the number of child welfare placements was not.

Significant differences between the late adolescence into adulthood group and the no/low justice system group also were found for other system involvement. Those with overall drug and alcohol system involvement across the age range of study were more than twice as likely to be in the late adolescence into adult justice system group than in the justice system group with no or low involvement compared to no drug and alcohol involvement, $B = .785$, $\chi^2(1) = 6.777$, $p < .01$, $\exp(B) = 2.17$. However, those with mental health involvement were less likely to be in the late adolescence into adult justice system group as the no/low justice system group compared to those without mental health involvement, $B = -.824$, $\chi^2(1) = 4.262$, $p < .05$, $\exp(B) = .44$. Thus, different significant effects were found for drug and alcohol and mental health when comparing the late adolescence into adult group with those with no or low justice system involvement. Specifically, mental health involvement had a protective, or buffering, effect for the late adolescence into adulthood group in that they were more likely to be in the no/low justice system group, while such a buffering effect was not present for drug and alcohol system involvement in that those with drug and alcohol involvement overall were more likely members of the late adolescent into adulthood group than the no/low justice system group.

Significant racial differences emerged in comparing two out of the four groups to those with no or low justice system involvement on four variables: sex, race, drug and alcohol involvement, and number of child welfare placements. Similar to the comparisons for the early age group as well as the late adolescent into adults group with the no/low justice system group,

males more than twice as likely as females to be in the short term, high involvement justice system group than those with no/low involvement $B = .773$, $\chi^2(1) = 7.132$, $p < .01$, $\exp(B) = 2.17$. For race, African-Americans were more likely than whites to be in the group with short-term but high justice system involvement, $B = 1.219$, $\chi^2(1) = 10.951$, $p = .001$, $\exp(B) = 3.33$ (see Table 11). Number of child welfare placements was significant between those with short term but high justice system involvement when compared to those with no or low justice system involvement, $B = .064$, $\chi^2(1) = 4.931$, $p < .01$, $\exp(B) = 1.07$. This result indicates that subjects with more out of home placements were more likely to be in the short term but highly involved group than in the no/low justice system group. Finally, those with short-term but high justice system involvement were over three times as likely to have overall drug and alcohol involvement than the no/low justice system group, $B = 1.119$, $\chi^2(1) = 13.493$, $\exp(B) = 3.03$. However, no significant difference was found for mental health involvement between the two groups.

Comparing the chronic justice system group and those with no/low justice system involvement, I found significant predictors for sex, race, overall drug and alcohol system involvement, and ever being in congregate care. Males were nearly twenty-eight times more likely to be members of the chronic justice system group as those with no or low involvement compared to females, $B = 3.316$, $\chi^2(1) = 37.977$, $p < .001$, $\exp(B) = 27.562$ (see Table 11). African-Americans were more likely to be in the chronic group than in the no/low justice system group. Also, those with overall drug and alcohol involvement were more likely to be in the chronic group than in the no/low justice system group. Whether a young person was ever in congregate care (comprised of group home and regular residential placements) when compared to all other placement types was significant predictor for those with chronic justice system involvement, $B = -1.033$, $\chi^2(1) = 7.599$, $p < .01$, $\exp(B) = .356$.

4.3.1 Summary of Regression Results

In summary, sex was significant across all groups in that males were more likely than females to be members of a group with any type of justice system involvement when each were compared to the no/low justice system group. Race was significant for two of the justice system groups when compared to the no/low group: the short term, highly involved group and the chronic group. Young people who were African-Americans were significantly more likely than whites to be in these two groups than in the no/low justice system group.

For child welfare variables, length in out of home child welfare placement was significant only for those with late adolescence into adult justice system involvement when compared to those with no or low justice system involvement group. The number of child welfare placements was significant for this group as well, which indicates that placement experiences, when operationalized as length in out of home placement and number of placements, is a significant predictor of group membership for being in the late adolescence into adulthood group. For the short term but high involvement group, number of placements was significant, but not length of time in out of home placement. Two child welfare variables were not significant across groups, including whether or not a young person had their family's child welfare case closed prior to age 13, and I found no significant differences for age at first child welfare placement. This is consistent with research that found that demographic variables of sex and race had a greater effect on justice system outcomes than maltreatment as a child (Widom, 1989a). Overall, these not significant results suggest that additional variables are related to justice system group membership than what I addressed here.

For the regression results on overall drug and alcohol and mental health system involvement, I found additional significant differences between groups for the former than the

latter. Mental health was only significant for the late adolescence into adulthood group. Considering the known relationship between child welfare and mental health systems, it is somewhat surprising that mental health involvement was not significant across more groups than one. However, the limitations of the overall mental health variable I used for the regression likely contributed to this, as the percentages of young people who received mental health services were high across all groups. More detailed mental health variables might have shown more predication and variation. Existing research on the connections between actual involvement in these systems, and not self-reports of drug usage or mental health services need, are scarce for child welfare youth with involvement in the justice systems. Maschi and colleagues' (2008) social-justice model does not provide explicit detail to base further assertions.

The only group for which being in congregate care was a significant predictor was for the chronic justice system group. The importance of this finding is that placements do not affect all justice system groups the same, as only one of them had congregate care as a significant predictor.

4.3.2 Additional Comparisons Between Justice System Trajectory Groups

All of the groups had high percentage of involvement in the systems, but some specific group relationships are particularly worth highlighting that multinomial logistic regression cannot address due to only comparing one group at a time with the reference group. This ignores comparisons between additional groups, which in this study refers to those with substantial justice system involvement. Thus, I discuss the justice system trajectory group results in comparison to each other in further detail here. Specifically, the justice system group with early age involvement and the chronic justice system group had some meaningful similarities.

Additionally, the justice system group with adolescent involvement into adulthood and those with short term, but high justice system involvement had interesting comparisons.

The early age justice system group and the chronic justice system group had some similarities and differences that merit acknowledgement. Both groups were comprised of more male than female subjects, although the chronic group had a considerably high percentage of males (93.4%). Although both groups had a majority of African-Americans in their groups, the early age group was relatively consistent with the racial composition of the full sample, while the chronic justice system group was predominantly African-American (86.9%). The two groups were similar in their mean number of days spent in the juvenile justice system, but not on the county jail measure for adult involvement. The groups were also similar in terms of their mean length of time in child welfare placements as well as their mean number of placements, although they were not statistically significant. For placement experiences, the early age group had a higher percentage of young people with foster home experiences, despite similar percentages of subjects who ever had group home and regular residential placements. Group 2, the early age group, spent higher percentage of time in foster homes, and had a higher percentage of young people with foster home experiences only. Their involvement on all four of the other system involvement measures was similar as well.

Those with justice system involvement from late adolescence into adulthood and those with short term but high justice system involvement had some notable similarities as well as differences. Both groups are somewhat similar in terms of their age range for justice system involvement, with the late adolescence into adulthood group continuing into having county jail involvement, while the short term but high group experiences a spike in involvement that then decreases. Group 3, those with justice system involvement from late adolescence into early

adulthood, had about twice the number of white young people than the short term, high involvement group. Group 4, those with a short but high justice system involvement, also had nearly twice the subjects who had their family's case closed before age 13 (12.9%) compared to those with late adolescence into adulthood involvement (6.3%), although these percentages were still low for both groups. These two groups also differed little in regard to placement type, and had high percentages of young people who had all three main placement types. The short term high group had a higher percentage with foster home experiences (83.9% compared to 74.6%), though, while the group with involvement from late adolescence into adulthood had higher percentages of group home and regular residential placement experiences. Although the short term but high justice system group (30.6%) had slightly more young people who only had foster home experiences than the late adolescent into adulthood group (22.2%), both groups had the same percentage of young people who only had placement experiences in group homes and regular residential settings.

For drug and alcohol involvement, the short term high group had the lowest percentage of involvement (16.1% compared to 42.9% in the early adolescent into adult group). However, for overall drug and alcohol system involvement they had the highest group percentage, similar to those with justice system involvement from late adolescence into adulthood.

The justice system trajectory groups had high involvement across all of the systems, therefore it is helpful to point out certain similarities and differences between them. The early age and the chronic justice system groups were similar for sex (more males), race (more African-Americans), number of days in the juvenile justice system, time in placements, and number of placements. What distinguished the groups in terms of justice system trajectories was that the early age group did not have as high of an average number of days in the county jail. For child

welfare placement types, the differentiating characteristic is that early age group had substantially more experiences in foster home placements, while the chronic group did not. For comparisons of Group 3 (late adolescence into adult) and Group 4 (short term high involvement), the former group had approximately twice as many white youth as the latter. The two groups had similar child welfare placements, and many in both groups experienced all three placement types. One difference, though, between the two was that those with justice system involvement from late adolescence into adulthood had more foster home experiences, while the short term high involvement group had more placements in group homes and regular residential facilities.

This chapter showed the results of the first half of the data analysis, covering trajectory analysis, descriptive results, and multinomial logistic regression. Through performing trajectory analysis, I found five different justice system groups which specifically demonstrated that there is a small but substantial percentage of child welfare young people with justice system involvement. While the idea of a small percentage having substantial involvement is consistent with Moffitt's (1993) developmental taxonomy, I found a greater number of trajectory groups than those she proposed for the general population. I also presented the descriptive information on their similarities and differences to show the variations within their demographics, extent of justice system involvement, child welfare placement experiences, and involvement in the drug and alcohol and mental health systems. Specifically, the groups differed on their placement type experiences in that the no/low justice system group have more foster home experiences, while the other groups tended to have more experiences in congregate care settings. I also demonstrated variations within the sample's mental health service involvement, given the high percentages of young people in the sample who had such experiences. Then, I conducted regression to examine predictors of justice system group membership. Although sex was a

significant predictor across groups, other variables showed the variation in factors that are related to distinguishing justice system group membership from the no/low justice system group.

Particularly, factors were different across groups, and congregate care was significant only for chronic justice system group membership. Recognizing these variations within the groups is important, as the regression showed variables affected the groups differently. I ended this chapter with comparisons within the four groups with substantial justice system involvement.

This chapter established the variations in justice system involvement, and particularly highlighted the important role that child welfare placement type seems to play in this. To extend this, then, the next chapter presents the results of the second half of the data analysis to further examine the role of child welfare placement for young people's justice system involvement.

5.0 RESULTS FOR CHILD WELFARE PLACEMENT TRAJECTORIES AND TRAJECTORY CROSS-TABULATIONS

In the last chapter, results of the trajectory analysis and regression showed that child welfare placement experiences matter in describing and differentiating the justice system groups. To provide further nuances to this relationship, this chapter outlines the results of trajectory modeling for the three main placement types in this study: foster homes, group homes, and regular residential facilities. Similar to how the justice system groups had different experiences that could be grouped together, the placement experiences of young people, even within the same placement type, are not the same. By performing trajectory analysis for each of the three main placement types in the sample, I am able to describe more details of these groups. Then, all four trajectory groups, including the justice system groups, are cross-tabulated to examine further similarities and differences in group memberships. The details of these three trajectory models are presented next, followed by cross-tabulations with justice system trajectories.

5.1 TRAJECTORY MODELING OF FOSTER HOME PLACEMENT

In order to analyze the trajectories of child welfare youth in foster home placements, I applied trajectory analysis methods that were the same as the justice system trajectories. I individualized the age ranges for each of the child welfare placement trajectories according to data distribution shown in histograms as well as a conceptual basis. For foster home placements, I chose the range from ages 8 to 18 years old. I decided to use this age range because the average age for first out of home placement for the child welfare sample overall was 8.14 years, thus this range would allow for information on foster home experiences for the four years prior to the

justice system trajectory measures. I also examined a histogram of the data distribution to see when most young people experienced placement in foster homes. I acknowledge that youths who had foster home experiences at very young ages are included in the trajectory groups, and discuss how they fit into the no/low foster home group later in this chapter.

The standard for choosing the model is consistent with those described previously in this chapter, including statistical fit according to the BIC as well as conceptual knowledge of the substantive area. I ran trajectory models on two to six groups. A five-group model fit the data best overall (Table 12). Although the six-group model had a decreasing BIC compared to the five-group model, as well as an acceptable size of greater than 5% for each group, I chose the five-group model based conceptually on examining the trajectory plot. The five-group model for foster home placement all had significant cubic trends for each group, therefore I made no additional model adjustments (Table 13).

Table 12 – Model Fit Indices for Foster Home Involvement

| Number of Groups | | LogL | AIC | BIC |
|------------------|--|-----------|-----------|-----------|
| 2 | | -12970.43 | -12979.43 | -13000.48 |
| 3 | | -11356.45 | -11370.45 | -11403.19 |
| 4 | | -10129.67 | -10148.67 | -10193.11 |
| 5 | | -9658.97 | -9682.97 | -9739.10 |
| 6 | | -9108.73 | -9137.73 | -9205.55 |

Once I chose the five-group model, I examined trajectory plots, and assigned labels to each of the groups (Figure 2). The first foster home placement group were those considered to have no or low foster home involvement, and also included those who had foster home involvement before age 8 (37.4%). The second group consisted of young people who had foster home experiences late adolescence thus being labeled “late adolescent foster home” (25.2%), rising steadily from age 14 on, nearing .60 probability at its peak. The third foster home group

had their experiences earlier in their adolescence, and are labeled as the “early adolescence foster home” group (8.9%), with a high probability of foster home involvement at just under .70.

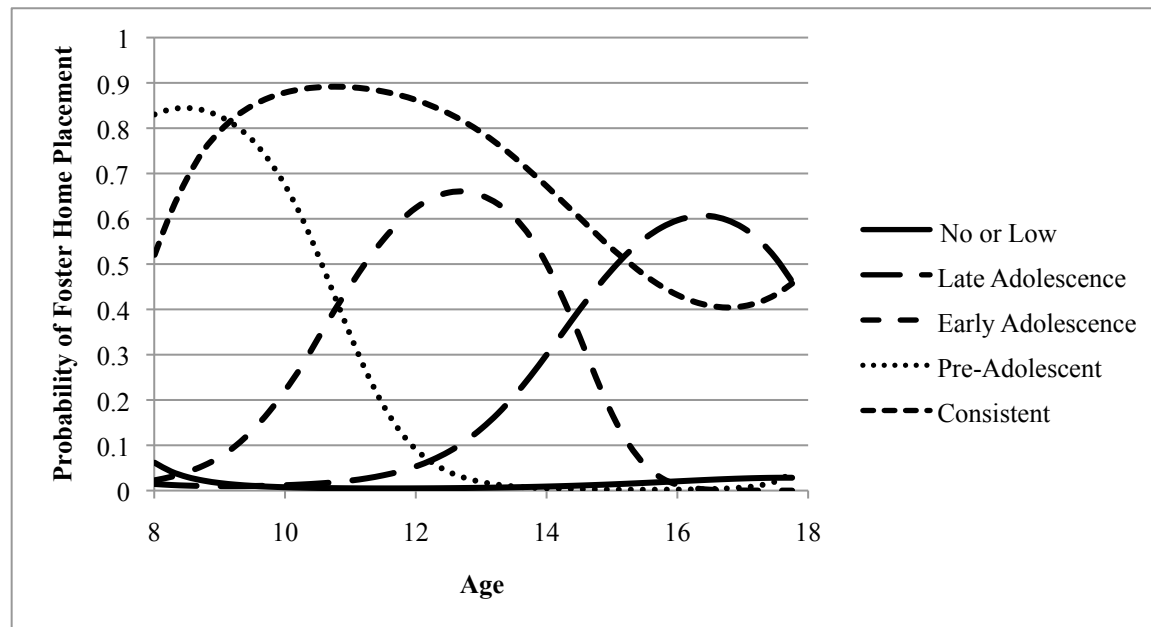
Table 13 – Foster Home Maximum Likelihood Estimates

| | Parameter | β | <i>SE</i> | <i>Z</i> | <i>P</i> |
|---------|-----------|---------|-----------|----------|----------|
| Group 1 | Intercept | -2.72 | 0.22 | -12.55 | <0.001 |
| | Linear | -1.66 | 0.26 | -6.35 | <0.001 |
| | Quadratic | 0.32 | 0.06 | 4.90 | <0.001 |
| | Cubic | -0.02 | 0.01 | -3.68 | <0.001 |
| 2 | Intercept | -4.22 | 0.34 | -12.35 | <0.001 |
| | Linear | -0.75 | 0.23 | -3.20 | 0.001 |
| | Quadratic | 0.37 | 0.05 | 7.99 | <0.001 |
| | Cubic | -0.03 | 0.01 | -9.51 | <0.001 |
| 3 | Intercept | -3.76 | 0.43 | -8.85 | <0.001 |
| | Linear | 1.16 | 0.39 | 2.93 | 0.003 |
| | Quadratic | 0.11 | 0.11 | 1.02 | 0.308 |
| | Cubic | -0.03 | 0.01 | -3.80 | <0.001 |
| 4 | Intercept | 1.58 | 0.16 | 9.74 | <0.001 |
| | Linear | 0.49 | 0.18 | 2.71 | 0.007 |
| | Quadratic | -0.55 | 0.06 | -9.93 | <0.001 |
| | Cubic | 0.05 | 0.00 | 11.10 | <0.001 |
| 5 | Intercept | 0.04 | 0.15 | 0.27 | 0.789 |
| | Linear | 1.67 | 0.14 | 12.29 | <0.001 |
| | Quadratic | -0.40 | 0.03 | -11.88 | <0.001 |
| | Cubic | 0.02 | 0.00 | 10.35 | <0.001 |

The fourth group had their involvement in the pre-adolescent ages (16.9%), decreasing sharply after ages 10 and 11, and the fifth foster home group had consistent involvement throughout the age range for the trajectories (11.6%), with a probability steady at around .90 between ages 10 and 12 years old.

By running the analysis with the age 8 cutoff, there could be a group of young people who had only foster home placements before the age of 8, that could easily fit into the no or low involvement foster home group, and thus potentially misrepresent those in that first foster home trajectory group. In order to address this, once I finished the final analyses and chose the five-

Figure 2 – Trajectories of Foster Home Involvement



group model, I examined frequencies and percentages based on two different age cutoffs: those with their family's entire case closed before age 13, and those with their age at last placement before they were 8 years old. These were comparable variables, and examining each showed this group comprised only about 16% of that trajectory group. I ran frequencies to compare the two subgroups on the variables in this study. To elaborate, of the 297 subjects in the low or no foster home group, 50 had their last child welfare placement end before age 8, while 242 had their child welfare placements end at age 8 or later (5 cases were omitted due to missing data). Those with cases closed at an older age had higher percentages of young people with drug and alcohol system involvement prior to justice system experiences, mental health system involvement prior to justice system experiences, more placement types, and number of child welfare placements. The older group, however, did have less total years in out of home placement when compared to the group with placement experiences ending before age 8. However, as the "under age 8"

individuals comprised only a small percentage of the no/low foster home group, I decided they would remain together in the analysis with a note about their group characteristics.

The overall sample and the five foster home groups had some similarities as well as differences in terms of demographics (Table 14). I present their specific group descriptions for foster home involvement next. The findings of the justice system variables are in Table 15, and those for child welfare variables are shown in Table 16. Table 17 contains the descriptive results of the foster home groups for drug and alcohol and mental health system involvement.

I conducted a one-way between subjects ANOVA to compare the effects of each of the variables with foster home group membership. The results of the significance tests are displayed in the first column in Tables 14 – 17. For demographics, sex ($p < .001$) and race ($p < .001$) were statistically significant, but not current age. Average number of days in juvenile detention was not significant across foster home groups, but criminal justice ($p < .001$) was. For child welfare variables, some variables were not significant: age at first placement, age at leaving last placement, and length of time in placement. Both number of placements ($p < .001$) and whether a family's child welfare case closed before a youth was age 13 ($p < .001$) were significant. All remaining child welfare variables were statistically significant as well: ever being in each of the three placement types, number of placement types, ever being in only one of three placement types, and percentage of time spent in each placement type. Regarding involvement in other systems, drug and alcohol prior to the justice system ($p < .01$) and drug and alcohol overall ($p < .01$) were both statistically significant across justice system trajectory groups. Mental health prior to justice system involvement was not significant, but the measure of overall mental health involvement ($p < .05$) was significant across foster home groups.

Table 14 - Five-Group Demographic Descriptive Results for Foster Home Trajectories

| | Full Sample (n = 794) | No/Low (n = 297) | Late Adolescence (n = 200) | Early Adolescence (n = 71) | Pre- adolescence (n = 134) | Consistent (n = 92) |
|------------------|--------------------------|---------------------|----------------------------------|----------------------------------|----------------------------------|------------------------|
| Sex*** | | | | | | |
| Male | 49.2% | 55.2% | 35.0% | 49.3% | 59.0% | 46.7% |
| Female | 50.8% | 44.8% | 65.0% | 50.7% | 41.0% | 53.3% |
| Race*** | | | | | | |
| White | 33.8% | 39.7% | 38.5% | 31.0% | 28.4% | 14.1% |
| African-American | 66.2% | 60.3% | 61.5% | 69.0% | 71.6% | 85.9% |
| Current Age | 20.46 (1.11) | 19.97 (1.13) | 20.02 (1.07) | 20.09 (1.19) | 19.97 (1.11) | 20.31 (1.10) |

* $p < .05$

** $p < .01$

*** $p < .001$

5.1.1 Group 1 – No/Low Foster Home Involvement/After Age 8

The first foster home group, those with no or low foster home placements, as well as those who left foster homes before age 8, tended to be white and male. This group was comprised of 55.2% males, and 39.7% of the group was white (see Table 14). They were one of two foster home groups with more males than females—the other group being the pre-adolescent group. They also had the most time—across foster home groups—spent in the county jail, which was the measure used for adult justice system involvement ($M = 39.15$ days, $SD = 68.76$) (Table 15). While the full sample had 6.66 ($SD = 5.04$) child welfare placements overall, the low to no foster home involvement group had an average of 5.68 ($SD = 4.33$) child welfare placements, which was also the lowest across groups. The no/low foster home involvement group also had the second highest group for percentage of family's child welfare cases closed before age 13 at 16.5%, second to the pre-adolescence group with 38.1%. As previously discussed, this low percentage is consistent with those who had their family's cases closed at early ages, and which are included as part of this trajectory group.

For child welfare placement type, this group was low in terms of foster home placements, but had substantial involvement in other placement types. They had the highest percentage of subjects with group home experiences (69.4%) and also the highest percentage for those in regular residential placements (48.1%) (Table 16). Similarly, the no/low foster home group had the highest average percentages of time spent in group homes ($M = 29.3\%$, $SD = .33$) and regular residential placements ($M = 25.7\%$, $SD = .33$). They also had the highest percentage of young people who only had group home experiences (13.1%). Although small, the no/low foster home group was the only group to have any subjects who were in regular residential placements only (3.0%), while each of the other foster home groups had none. Therefore, although this group did not have large amounts of time spent in foster homes, they had experiences in other child welfare placements.

For other system involvement before entering the juvenile justice system, variations appeared for drug and alcohol system involvement (Table 17). The no/low involvement in foster home group had the second highest group percentage of drug and alcohol system involvement prior to justice system involvement (26.9%), which is higher than the full sample (23.9%). They also had slightly higher percentages overall for mental health system involvement (86.2%) than the full sample. The no/low foster home group, then, had some substantial involvement in other systems for drug and alcohol prior to the justice system, but not for mental health.

5.1.2 Group 2 – Late Adolescence Foster Home Involvement

The late adolescent foster home group is characterized as white, female, with substantial child welfare placement experiences across all three main types, and child welfare system involvement in their family after age 13. Those in the late adolescence foster home group also

Table 15 – Five-Group Descriptive Results for Foster Home Trajectories - Justice System Involvement

| | Full Sample (n = 794) | No/Low (n = 297) | Late Adolescence (n = 200) | Early Adolescence (n = 71) | Pre-adolescence (n = 134) | Consistent (n = 92) |
|--|--------------------------|-------------------------------|-------------------------------|-------------------------------|------------------------------|------------------------------|
| Mean Number of Days in Juvenile Detention (n = 231) | 52.16 (66.35) | 53.22 (51.80) (n = 103) | 38.26 (50.65) (n = 53) | 56.15 (58.68) (n = 17) | 40.60 (38.32) (n = 34) | 68.65 (87.13) (n = 24) |
| Mean Number of Days in County Jail*** (n = 145) | 31.02 (58.12) | 39.15 (68.76) (n = 76) | 23.19 (37.73) (n = 22) | 35.20 (67.04) (n = 15) | 18.98 (32.84) (n = 22) | 6.77 (8.44) (n = 10) |

* $p < .05$

** $p < .01$

*** $p < .001$

had a significantly lower average number of days spent in county jail ($M = 23.19$, $SD = 37.73$) than the full sample and the no/low foster home groups. This group had a higher percentage of white youth (38.5%) than the full sample (33.8%) (Table 14). The late adolescent foster home group had more child welfare placements ($M = 7.20$, $SD = 5.20$) than the overall sample. This group also had a small percentage of young people with their family's child welfare cases closed before age 13 (3.0%). For foster home, everyone in this group had foster home experiences, about two-thirds had group home experiences, and about one-third had ever had regular residential placement experiences. The late adolescence group also had a high percentage of subjects ever in each of the three placement types. They also had approximately twice the percentage of total time in foster homes than the no/low foster home group, and had lower percentages of time in congregate care settings. This group had slightly higher drug and alcohol experiences than the whole sample (Table 17). The percentage of the full sample that had drug and alcohol system involvement before entering the justice system was 23.9%, and was highest in the late adolescent group at 28.5%. The late adolescence foster home group had only a slightly

Table 16 - Five-Group Descriptive Results for Foster Home Trajectories – Child Welfare Variables

| | Full Sample (n = 794) | No/Low (n = 297) | Late Adolescence (n = 200) | Early Adolescence (n = 71) | Pre- adolescence (n = 134) | Consistent (n = 92) |
|--|-----------------------------|---------------------|----------------------------------|----------------------------------|----------------------------------|------------------------|
| Age at First Child Welfare Placement | 8.14 (5.25) | 8.59 (6.11) | 10.40 (5.21) | 8.27 (3.69) | 5.36 (2.65) | 5.71 (3.02) |
| Age at Leaving Last Child Welfare Placement | 15.47 (3.94) | 14.68 (4.94) | 17.88 (.78) | 15.90 (2.16) | 12.34 (3.16) | 17.02 (2.18) |
| Length of Time in Placement | 4.03 (2.85) | 2.92 (1.94) | 3.26 (1.57) | 4.38 (2.37) | 4.12 (2.32) | 8.92 (3.39) |
| Number of Placements*** | 6.66 (5.04) | 5.68 (4.33) | 7.20 (5.22) | 7.35 (5.59) | 6.00 (4.90) | 9.11 (5.59) |
| Child Welfare Closed Before Age 13*** | 13.9% | 16.5% | 3.0% | 2.8% | 38.1% | 2.2% |
| Placement Type | | | | | | |
| Ever in FH*** | 82.2% | 56.9% | 100.0% | 98.6% | 91.0% | 100.0% |
| Ever in GH*** | 59.7% | 69.4% | 67.5% | 47.9% | 32.1% | 60.9% |
| Ever in RR*** | 35.8% | 48.1% | 32.0% | 32.4% | 18.7% | 31.5% |
| Placement Type – Ever in Only | | | | | | |
| FH Only*** | 36.0% | 24.2% | 29.5% | 47.9% | 66.4% | 34.8% |
| GH Only*** | 5.4% | 13.1% | 0.0% | 0.0% | 3.0% | 0.0% |
| RR Only** | 1.1% | 3.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Number of Placement Types*** | | | | | | |
| None – Other One Type | 0.8% | 2.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Only (FH, GH, or RR) | 42.6% | 40.4% | 29.5% | 47.9% | 69.4% | 34.8% |
| Two Types Total | 34.9% | 38.7% | 41.5% | 25.4% | 19.4% | 38.0% |
| All Three Types | 21.8% | 18.9% | 29.0% | 26.8% | 11.2% | 27.2% |
| Percentage of Time in FH*** | 60.8% (.41) | 32.2% (.42) | 72.9% (.28) | 75.7% (.30) | 80.7% (.34) | 86.3% (.20) |
| Percentage of Time in GH*** | 17.9% (.26) | 29.3% (.33) | 14.6% (.19) | 10.9% (.16) | 9.2% (.21) | 6.5% (.12) |
| Percentage of Time in RR*** | 14.2% (.26) | 25.7% (.33) | 7.5% (.14) | 11.0% (.21) | 6.8% (.19) | 5.0% (.11) |

* $p < .05$

** $p < .01$

*** $p < .001$

Table 17 – Five-Group Descriptive Results for Foster Home Trajectories – Other System Involvement

| | Full Sample (n = 794) | No/Low (n = 297) | Late Adolescence (n = 200) | Early Adolescence (n = 71) | Pre- adolescence (n = 134) | Consistent (n = 92) |
|---|--------------------------------|------------------------|----------------------------------|----------------------------------|----------------------------------|------------------------|
| Drug and Alcohol Involvement (Prior to Justice System)* | 23.9% | 26.9% | 28.5% | 18.3% | 16.4% | 19.6% |
| Drug and Alcohol Involvement (Overall)** | 38.9% | 45.1% | 40.0% | 32.4% | 26.9% | 39.1% |
| Mental Health Involvement (Prior to Justice System) | 70.9% | 73.4% | 70.0% | 70.4% | 64.2% | 75.0% |
| Mental Health Involvement (Overall)* | 85.8% | 86.2% | 88.0% | 83.1% | 77.6% | 93.5% |

* $p < .05$

** $p < .01$

*** $p < .001$

higher percentage of young people with overall mental health involvement (88.0%) as the no/low foster home group.

5.1.3 Group 3 – Early Adolescence Foster Home Involvement

The group with experiences in foster homes during early adolescence had demographics that were consistent with the overall sample for sex and race, had the lowest percentage of young people with their family's case closed prior to their turning 13, and had relatively high percentages of foster home involvement but lower percentages in congregate care settings. The early adolescence foster home group was the second highest group for county jail involvement ($M = 35.20$, $SD = 67.04$). This group had a high number of child welfare placements, as young people in the early adolescent group had the second highest number of child welfare placements

with 7.35 ($SD = 5.59$) (see Table 16). This group also had a small percentage of young people with their family's child welfare cases closed before age 13 (2.8%). Nearly all (98.6%) spent some time in a foster home, and just under half of the group had foster home as their only placement type. They were similar to the late adolescence and consistent foster home groups in that nearly everyone in the early adolescence foster home group had foster home involvement, but they had lower percentages of young people ever in group homes and ever in regular residential placements than those two groups. They were also characterized as having less drug and alcohol system involvement for both the prior and overall measures than the overall sample (Table 17).

5.1.4 Group 4 – Pre-Adolescent Foster Home Involvement

The fourth foster home group, those with pre-adolescent foster home involvement, spent considerable time in foster homes. The pre-adolescence foster home group had the second-lowest average number of days spent in the county jail across foster home groups ($M = 18.98$, $SD = 32.84$). This group was one of two, the other being the no/low foster home group, with more males (59.0%) than females (Table 14). They also had a high percentage of African-American young people in its group, relative to the overall sample (71.6%). Also consistent with their group label was the child welfare variable of whether a young person had their family's child welfare case closed before age 13, with this group having the highest percentage (38.1%). In terms of placement type, the pre-adolescent group was involved mostly in foster homes, with 66.4% of the group experiencing this type of placement only. They were also relatively stable for placement type, as 69.4% of the group had only experienced one of the three main placement types, and at young ages. For other system involvement, those with early age foster home

involvement had the lowest percentage of drug and alcohol system experiences prior to the justice systems (16.4%) (Table 17).

5.1.5 Group 5 – Consistent Foster Home Involvement

The group with consistent foster home involvement was mostly female, African-American, and was characterized by having a high number of young people in each placement type, and a substantial number who had all three types. Those with consistent foster home involvement had the least county jail involvement across the foster home trajectory groups ($M = 6.77$, $SD = 8.44$). This group had slightly more females (53.3%) than males (Table 14). Those with consistent foster home involvement throughout the age range of study had a high representation of African-American young people in the group (85.9%). They had a relatively high number of child welfare placements, with a mean of 9.11 ($SD = 5.59$). Those with consistent foster home involvement also had a small percentage of young people with their family's child welfare cases closed before age 13. This group had a high percentage of young people ever in each placement type (foster homes = 100.0%, group homes = 60.9%, and regular residential facilities = 31.5%). The consistent foster home group also had the second highest percentage of any group to have experienced all three placement types (27.2%). Thus, the consistent foster home group not only was consistent in foster home placements, but across congregate care as well.

Those with consistent foster home involvement had less drug and alcohol prior (19.6%) and overall (39.1%) than the no/low foster home group. They had the highest percentage of mental health involvement overall, across groups (93.5%), with nearly everyone in this group receiving services (Table 17). Given the known relationship between child welfare involvement and mental health, it is consistent that those who had high foster home involvement were

involved in mental health as well, as nearly everyone in this group who had mental health services.

5.2 TRAJECTORY MODELING OF GROUP HOME PLACEMENT

I conducted the analysis for the trajectories of child welfare youth in group home placements using the same methods for the justice system and foster home trajectories. The age range for the group home trajectories was from age 12 to 18. While this was consistent with the justice system trajectories for juvenile justice, I also based this decision on examining histograms of the data distribution for age in group home placements. Thus, I also chose this age range because of the frequencies of age during group home involvement. I ran trajectory models on two to six groups. A five-group model fit the data best overall. Similar to the justice system trajectory, while the six-group model had a decreasing BIC compared to the five-group model (Table 18), it did not have acceptable group sizes of greater than 5% for each group. Therefore, I chose the five-group model conceptually by examining the trajectory plot. I then adjusted the final model for group home placement on the cubic trend so that all groups were statistically significant (Table 19).

Table 18 - Model Fit Indices for Group Home Involvement

| Number of Groups | LogL | AIC | BIC |
|------------------|----------|----------|----------|
| 2 | -5568.73 | -5577.73 | -5598.78 |
| 3 | -5298.68 | -5312.68 | -5345.42 |
| 4 | -5149.62 | -5168.62 | -5213.06 |
| 5 | -4971.22 | -4995.22 | -5051.34 |
| 6 | -4876.72 | -4905.72 | -4973.54 |

I assigned labels for the five-group model for each of the groups based on the trajectory plots (Figure 3). The first group home placement group were those with no or low group home involvement and consisted of almost half the sample. The second group was comprised of those

who had group home experiences in early adolescence (9.4%), and had a peak of probability of approximately .50 at around ages 14 to 15. The third group home group had consistent experiences in this type of placement throughout the age range (8.4%), while the fourth group experienced a peak in group home involvement at around age 15, then experienced a decrease in such placement type (19.6%). Finally, the fifth group home group had a quick peak of group home placement in late adolescence (10.8%), including a probability near .90 around age 18. The demographics for this group are in Table 20.

Table 19 – Group Home Maximum Likelihood Estimates

| | Parameter | β | <i>SE</i> | <i>Z</i> | <i>p</i> |
|---------|-----------|---------|-----------|----------|----------|
| Group 1 | Intercept | -4.75 | 0.26 | -18.02 | <0.001 |
| | Linear | 0.09 | 0.08 | 1.14 | 0.253 |
| 2 | Intercept | -3.99 | 0.57 | -7.00 | <0.001 |
| | Linear | 3.28 | 0.48 | 6.82 | <0.001 |
| | Quadratic | -0.68 | 0.11 | -6.47 | <0.001 |
| 3 | Intercept | -2.38 | 0.27 | -8.72 | <0.001 |
| | Linear | 1.03 | 0.16 | 6.24 | <0.001 |
| | Quadratic | -0.07 | 0.03 | -2.59 | 0.010 |
| 4 | Intercept | -4.60 | 0.66 | -7.02 | <0.001 |
| | Linear | -1.61 | 0.82 | -1.96 | 0.05 |
| | Quadratic | 1.61 | 0.29 | 5.49 | <0.001 |
| | Cubic | -0.23 | 0.03 | -7.47 | <0.001 |
| 5 | Intercept | -6.43 | 1.51 | -4.25 | <0.001 |
| | Linear | 0.74 | 0.76 | 0.97 | 0.331 |
| | Quadratic | 0.13 | 0.09 | 1.34 | 0.180 |

Figure 3 – Trajectories of Group Home Involvement

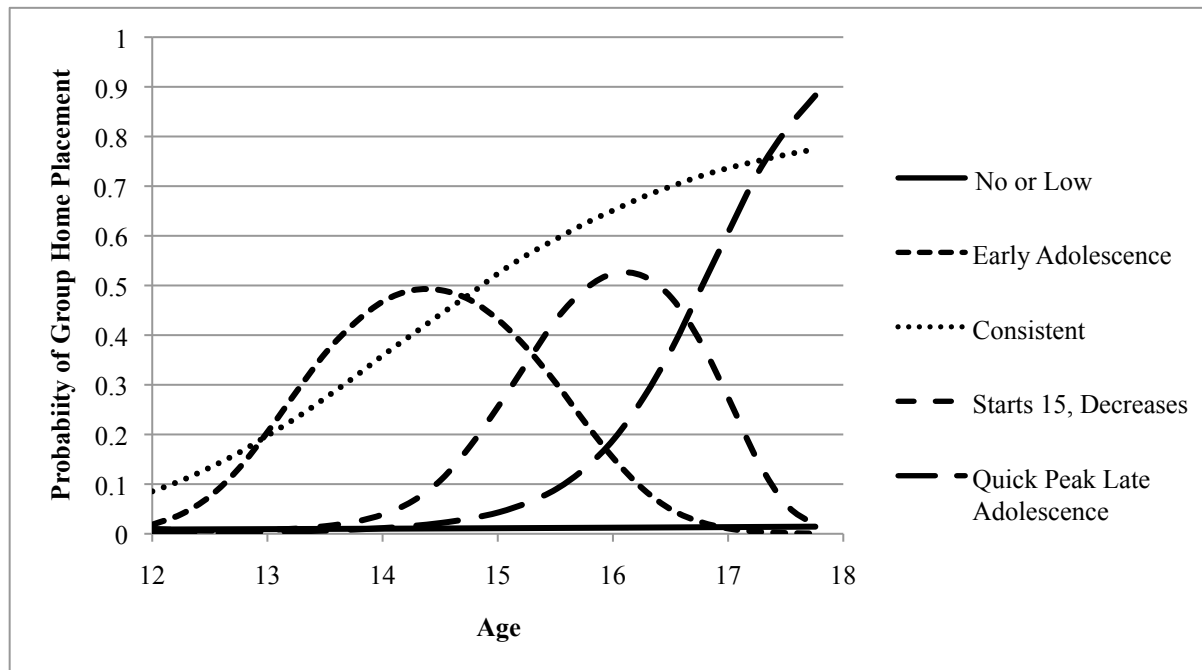


Table 20 – Five-Group Demographic Descriptive Results for Group Home Trajectories

| | Full Sample (n = 794) | No/Low (n = 410) | Early Adol. (n = 75) | Consistent (n = 67) | Starts 15, Decrease (n = 156) | Quick Peak LA (n = 86) |
|----------------------|-----------------------------|---------------------|----------------------------|------------------------|-------------------------------------|------------------------------|
| Sex*** | | | | | | |
| Male | 49.2% | 56.3% | 37.3% | 35.8% | 41.7% | 50.0% |
| Female | 50.8% | 43.7% | 62.7% | 64.2% | 58.3% | 50.0% |
| Race | | | | | | |
| White | 33.8% | 34.1% | 34.7% | 26.9% | 34.6% | 34.9% |
| African- American | 66.2% | 65.9% | 65.3% | 73.1% | 65.4% | 65.1% |
| Current Age | 20.46 (1.11) | 20.01 (1.13) | 20.02 (1.12) | 20.01 (1.10) | 20.15 (1.09) | 19.95 (1.07) |

* $p < .05$

** $p < .01$

*** $p < .001$

I conducted a one-way between subjects ANOVA to compare the effects of each of the variables with group home group membership. The results of the significance tests are displayed in the first column in Tables 20 – 23. For demographics, sex ($p < .001$) was statistically significant, but not race or current age. Unlike the foster home groups, average number of days in juvenile detention was significant across group home groups ($p < .01$), but not criminal justice. Similar to the foster home trajectory groups, for child welfare variables, some variables were not significant: age at first placement, age at leaving last placement, and length of time in placement. All remaining child welfare variables were statistically significant: number of placements, whether a family's child welfare case was closed before age 13, ever being in each of the three placement types, number of placement types, ever being in only one of three placement types, and percentage of time spent in each placement type. For involvement in other systems, all four measures were significant: drug and alcohol prior to the justice system ($p < .001$), drug and alcohol overall ($p < .001$), mental health prior to the justice system ($p < .001$), and mental health overall ($p < .001$).

5.2.1 Group 1 – No or Low Group Home Involvement

The no or low group home group had slightly more males (56.3%) than females. The no/low group home trajectory group had juvenile justice involvement that was similar to the overall sample, with 52.29 days in juvenile placement ($SD = 60.43$) (Table 21). I examined aspects of child welfare experiences by group membership for the five group home groups and results are presented in Table 22. Those with no or low group home involvement had the highest percentage of young people with their family's child welfare case closed before age 13 (23.9%).

Table 21 – Five-Group Descriptive Results for Group Home Trajectories - Justice System Involvement

| | Full Sample (n = 794) | No/Low (n = 410) | Early Adol. (n = 75) | Consistent (n = 67) | Starts 15, Decrease (n = 156) | Quick Peak LA (n = 86) |
|--|-----------------------------|------------------------------|------------------------------|------------------------------|-------------------------------------|------------------------------|
| Mean Number of Days in Juvenile Detention** (n = 231) | 52.16 (66.35) | 52.29 (60.43) (n = 93) | 55.70 (53.26) (n = 23) | 55.81 (50.60) (n = 30) | 34.51 (45.58) (n = 54) | 58.39 (59.30) (n = 31) |
| Mean Number of Days in County Jail (n = 145) | 31.02 (58.12) | 21.09 (46.16) (n = 64) | 19.45 (33.59) (n = 14) | 49.60 (88.83) (n = 16) | 33.27 (59.32) (n = 32) | 53.59 (69.31) (n = 19) |

* $p < .05$

** $p < .01$

*** $p < .001$

The no/low group home group tended to mostly experience placement in foster homes. For placement types, this group had the highest percentage of young people who were ever in foster homes (92.9%), as well as low percentages of subjects with experiences in group homes (24.1%) and regular residential facilities (16.1%) (Table 22). This group had a substantially higher percentage of young people who were ever in foster home only (67.6%), while each of the other groups had 3.8% or less. The no/low group also is the only group that had any subjects with regular residential placements only (2.2%), and even that number was small. This group also was the only group to have any young people in any other placement type other than the main three of focus in this study, and that number was small as well (1.5%). Those with no or low group home involvement also were the highest group with one placement type only (70.5%). They also had the highest average percentage of time spent in foster homes ($M = 84.6\%$, $SD = .31$).

Table 22 - Five-Group Descriptive Results for Group Home Trajectories – Child Welfare Variables

| | Full Sample (n = 794) | No/Low (n = 410) | Early Adol. (n = 75) | Consistent (n = 67) | Starts 15, Decrease (n = 156) | Quick Peak LA (n = 86) |
|--|--------------------------|---------------------|----------------------------|------------------------|-------------------------------------|------------------------------|
| Age at First Child Welfare Placement | 8.14 (5.25) | 6.89 (4.91) | 8.76 (4.14) | 8.28 (4.60) | 9.62 (5.47) | 11.29 (5.37) |
| Age at Leaving Last Child Welfare Placement | 15.47 (3.94) | 13.49 (4.49) | 16.92 (1.62) | 17.94 (.78) | 17.49 (1.54) | 18.02 (.96) |
| Length of Time in Placement | 4.03 (2.85) | 4.15 (2.80) | 4.33 (3.19) | 5.96 (3.13) | 3.39 (2.76) | 2.88 (1.65) |
| Number of Placements*** | 6.66 (5.04) | 4.77 (2.89) | 9.40 (5.22) | 12.70 (8.28) | 7.78 (5.24) | 6.56 (3.91) |
| Child Welfare Closed Before Age 13*** | 13.9% | 23.9% | 5.3% | 3.0% | 2.6% | 2.3% |
| Placement Type | | | | | | |
| Ever in FH*** | 82.2% | 92.9% | 81.3% | 73.1% | 72.4% | 57.0% |
| Ever in GH*** | 59.7% | 24.1% | 98.7% | 100.0% | 96.2% | 97.7% |
| Ever in RR*** | 35.8% | 16.1% | 66.7% | 68.7% | 51.9% | 47.7% |
| Placement Type – Ever in Only | | | | | | |
| FH Only*** | 36.0% | 67.6% | 1.3% | 0.0% | 3.8% | 2.3% |
| GH Only*** | 5.4% | 0.7% | 2.7% | 11.9% | 9.6% | 17.4% |
| RR Only** | 1.1% | 2.2% | 0.0% | 0.0% | 0.0% | 0.0% |
| Number of Placement Types*** | | | | | | |
| None - Other | 0.8% | 1.5% | 0.0% | 0.0% | 0.0% | 0.0% |
| One type only (FH, GH, or RR) | 42.6% | 70.5% | 4.0% | 11.9% | 13.5% | 19.8% |
| Two Types | 34.9% | 21.5% | 45.3% | 46.3% | 52.6% | 58.1% |
| Total | | | | | | |
| All Three Types | 21.8% | 6.6% | 50.7% | 53.7% | 34.0% | 22.1% |
| Percentage of Time in FH*** | 60.8% (.41) | 84.6% (.31) | 43.1% (.36) | 25.4% (.25) | 40.5% (.37) | 27.5% (.33) |
| Percentage of Time in GH*** | 17.9% (.26) | 1.54% (.04) | 24.0% (.21) | 51.8% (.27) | 26.3% (.24) | 49.1% (.31) |
| Percentage of Time in RR*** | 14.2% (.26) | 8.4% (.23) | 27.6% (.30) | 17.6% (.19) | 21.0% (.28) | 15.3% (.22) |

* $p < .05$

** $p < .01$

*** $p < .001$

I examined drug and alcohol and mental health system involvement prior to justice system involvement as well as an overall measure (Table 23). All four of the drug and alcohol and mental health variables were statistically significant across group home trajectory groups. On the whole, the group with no or low group home involvement had the lowest percentages of young people with drug and alcohol and mental health experiences, on all measures. For drug and alcohol involvement prior to the justice systems, the group home trajectory group with no to low group home placement had the lowest percentage of 11.7%. When examining drug and alcohol system involvement overall, again, the group home group with no or low placements of that type had the least drug and alcohol involvement (21.5%). For mental health system involvement prior to justice system involvement, the no/low group home group also had the lowest percentages of young people with such involvement, but overall these numbers were still high.

5.2.2 Group 2 – Early Adolescence Group Home Involvement

The second group home group, those with experiences in group homes in early adolescence, tended to be female, with family child welfare cases closed at relatively young ages, and were on the move in terms of child welfare placements. There were more females than males in this group. The early adolescence group had 62.7% females, which is higher than the overall sample percentage of 50.8% (Table 20). The early adolescent group home group had only slightly higher days in juvenile detention ($M = 55.70$, $SD = 53.26$), then the no/low group home trajectory group (Table 21). This group also had the second highest number of child welfare placements ($M = 9.40$, $SD = 5.22$), as well as was the second highest group with family child welfare cases closed before age 13 (5.3%), although this is still far behind the percentage of

those in the no/low group home involvement group (Table 22). The early adolescence group home group also was the second highest group to have all three placement types (50.7%). The

Table 23 – Five-Group Descriptive Results for Group Home Trajectories – Other System Involvement

| | Full Sample (n = 794) | No/Low (n = 410) | Early Adol. (n = 75) | Consistent (n = 67) | Starts 15, Decrease (n = 156) | Quick Peak LA (n = 86) |
|---|-----------------------------|---------------------|----------------------------|------------------------|---|------------------------------|
| Drug and Alcohol Involvement (Prior to Justice System)*** | 23.9% | 11.7% | 37.3% | 38.8% | 36.5% | 36.0% |
| Drug and Alcohol Involvement (Overall)*** | 38.9% | 21.5% | 60.0% | 56.7% | 57.1% | 57.0% |
| Mental Health Involvement (Prior to Justice System)*** | 70.9% | 62.2% | 84.0% | 89.6% | 74.4% | 80.2% |
| Mental Health Involvement (Overall)*** | 85.8% | 79.0% | 98.7% | 94.0% | 91.7% | 89.5% |

* $p < .05$

** $p < .01$

*** $p < .001$

early adolescence group had the highest average percentage of time in regular residential placement ($M = 27.6\%$, $SD = .30$).

The early adolescent group home group had the highest overall percentages of experiences in the other two systems. They had the highest (60.0%) percentage for overall drug and alcohol system involvement (Table 23). I also found similar results for the measure of overall mental health system involvement, with the early adolescence group home group with nearly all of its members having some type of mental health involvement overall.

5.2.3 Group 3 – Consistent Group Home Involvement

The group with consistent group home involvement can be summarized as being mostly female, with child welfare cases for their family open after they were age 13, and having substantial time in out of home child welfare placement as well. Those with consistent group home involvement had only slightly more days in juvenile detention ($M = 55.81$, $SD = 50.60$), than the no/low group home group.

There were more females than males in Group 3 of the group home trajectory groups. The consistent group home group had 64.2% females, which is both higher than the overall sample percentage of 50.8% and also higher than the 43.7% in the group with low or no group home placements (Table 20). Those with consistent group home involvement (3.0%) had a small percentage of young people who had their family's child welfare cases closed before age 13. They had considerably higher number of placements than the overall sample, and the most across group home groups ($M = 12.70$, $SD = 8.28$). Everyone in this group had group home involvement, and this group also had the highest percentage of those with experiences in regular residential facilities (68.7%). No one in this group had foster home experiences only. They also had the highest percentage of subjects who had all three placement types (53.7%).

The group with consistent group home experiences had high drug and alcohol and mental health services before entering the justice systems. Those in the consistent group home group had the highest percentage of drug and alcohol system involvement prior to the justice systems, with 38.8% (Table 23). They had the highest percentage (89.6%) of mental health system involvement prior to the justice systems. The group with consistent group home involvement had 94.0% of its members involved in mental health services overall.

5.2.4 Group 4 – Starts at Age 15, Then Decreases for Group Home Involvement

Group 4, those with group home involvement that peaks at around age 15 and then gradually decreases, also had a higher percentage of females than males, with 58.3% (Table 20). Among the five group home trajectory groups, they had the lowest number of days in juvenile detention, with 34.51 ($SD = 45.58$) (Table 21). They also had a small percentage of young people who had their family's child welfare cases closed before age 13 (2.6%), and about twice the number of placements as the no/low group home group (Table 22). This group was the second highest for percentage of young people who had group home experiences only (9.6%), and nearly all had ever spent time in group home placements. For all drug and alcohol and mental health system measures, both prior to justice systems as well as overall, this group had higher percentages than the overall sample (Table 23). However, these numbers were neither the highest nor the lowest of any of the group home groups.

5.2.5 Group 5 – Quick Peak in Late Adolescence Group Home Involvement

The fifth group home group, with a quick peak of justice system involvement in late adolescence, had an even number of males and females, most had child welfare involvement in adolescence, and more placements than the no/low group home group.

They were evenly split for males and females (Table 20). The quick peak in late adolescence group home trajectory group had the highest number of days in juvenile justice placement, with 58.39 days ($SD = 59.30$). Most had child welfare involvement in adolescence, as only 2.3% of the group had their family's child welfare case closed before age 13. They had a greater number of placements in child welfare than the no/low group home group. In regard to placement type, this group had the lowest percentage of young people who ever had foster home experiences (57.0%). This group also did not have as high a percentage of those with regular residential experiences as the other groups, with the exception of the no/low group home group.

They did, though, have the second highest percentage for one placement type only (19.8%), but this number was not close to those in the no/low group home group. The group with a quick peak of group home experiences in late adolescence had the highest percentage of two placement types (58.1%), but the second lowest for three placement types (22.1%). Those with a short peak in late adolescence had the least average percentage of time spent in foster homes ($M = 27.5\%$, $SD = .33$), and the highest number of young people with group home experiences only.

For each of the drug and alcohol and mental health system measures, those with a peak of group home involvement in late adolescence had higher percentages than the overall sample (Table 23). However, these were neither the highest nor the lowest of any of the group home groups.

Overall, all of the drug and alcohol and mental health measures, both prior to justice system involvement as well as overall, were statistically significant, indicating differences across all the group home trajectory groups. This is particularly interesting when considering the finding that race as well as a number of child welfare variables (age at entering child welfare placement, age at leaving last child welfare placement, length of time in out of home placement) were not significant across group home groups.

5.3 TRAJECTORY MODELING OF REGULAR RESIDENTIAL PLACEMENT

The last of the trajectories that I included in the analyses were for experiences in regular residential child welfare placements. The age range for these trajectories was the same as the range for the group home trajectories, from age 12 to 18. This was done not only to keep consistent with both the justice (juvenile) system trajectories as well as the group home placement trajectories, but also due to the distribution of the data around these ages. Similar to the methods for the other system involvement trajectories, I ran trajectory models for two to six

groups (Table 24). A four-group model fit the data best overall. Although the five-group model had a decreasing BIC compared to the four-group model, it did not have acceptable group sizes of greater than 5% for each group. Therefore, I chose the four-group model by examining the trajectory plot. I then adjusted the final regular residential placement model on the cubic trend in order to ensure that all groups were statistically significant (Table 25).

Table 24 - Model Fit Indices for Regular Residential Involvement

| Number of Groups | LogL | AIC | BIC |
|------------------|----------|----------|----------|
| 2 | -4136.32 | -4145.32 | -4166.37 |
| 3 | -3666.88 | -3680.88 | -3713.62 |
| 4 | -3396.5 | -3415.5 | -3459.93 |
| 5 | -3277.5 | -3301.5 | -3357.62 |
| 6 | -3194.47 | -3223.47 | -3291.28 |

Table 25 – Regular Residential Maximum Likelihood Estimates

| | Parameter | β | <i>SE</i> | <i>Z</i> | <i>p</i> |
|---------|-----------|---------|-----------|----------|----------|
| Group 1 | Intercept | -7.46 | 0.68 | -10.96 | <0.001 |
| | Linear | 0.35 | 0.16 | 2.13 | 0.033 |
| 2 | Intercept | -11.51 | 1.04 | -11.02 | <0.001 |
| | Linear | 8.58 | 0.77 | 11.09 | <0.001 |
| | Quadratic | -1.54 | 0.14 | -11.23 | <0.001 |
| 3 | Intercept | -10.39 | 3.53 | -2.94 | 0.003 |
| | Linear | 2.01 | 2.67 | 0.75 | 0.453 |
| | Quadratic | 0.61 | 0.66 | 0.93 | 0.355 |
| | Cubic | -0.12 | 0.05 | -2.17 | 0.030 |
| 4 | Intercept | -0.08 | 0.20 | -0.37 | 0.709 |
| | Linear | 1.13 | 0.30 | 3.72 | <0.001 |
| | Quadratic | -0.49 | 0.13 | -3.95 | <0.001 |
| | Cubic | 0.05 | 0.01 | 3.35 | 0.001 |

I then assigned labels to the four-group model for regular residential placement based on the trajectory plots (Figure 4). The first residential placement group consisted of those that had little to no experiences in residential placement (67.6%). The second residential placement group

experienced peaks in this placement right before age 15 (9.1%), with a high probability of approximately .60. The third group experienced similar peaks right before age 17 (16.0%), as well as a similar high in probability. The fourth residential placement group had consistent involvement across the age range (7.3%). Table 26 shows the findings for the demographic information of the four residential placement trajectory groups.

I conducted a one-way between subjects ANOVA to compare the effects of each of the variables with regular residential placement group membership. The results of the significance tests are displayed in the first column in Tables 26 – 29. None of the demographic variables were statistically significant. Similar to the group home trajectory groups, average number of days in juvenile detention ($p < .001$) was significant across groups, but not criminal justice. Similar to the findings for both foster home and group home groups, for child welfare variables, some variables were not significant: age at first placement, age at leaving last placement, and length of time in placement. Both number of placements ($p < .001$) and whether a family's child welfare case closed before a youth was age 13 ($p < .001$) were significant. All remaining child welfare variables were also statistically significant, except for only ever being in a group home: ever being in each of the three placement types, number of placement types, ever being in only one of three placement types, and percentage of time spent in each placement type. Regarding involvement in other systems, all measures were significant.

5.3.1 Group 1 – No or Low Regular Residential Involvement

The no/low residential group had fewer placements than the overall sample, the highest percentage of cases closed before age 13, the most experiences in foster homes yet least in group homes, and most experienced only one type of placement. The no/low regular residential

Figure 4 – Trajectories of Regular Residential Involvement



trajectory group also had juvenile justice involvement, with 51.76 days in juvenile placement ($SD = 59.11$), which was similar to the overall sample (Table 27). Young people with no or low residential placement involvement had the highest percentage of their family's child welfare cases closed before age 13 (18.8%) (Table 28). In terms of child welfare placements, the no or low regular residential group had the highest percentage of subjects with experiences in foster homes (89.8%), yet the lowest percentage of young people with group home experiences (45.4%). On all drug and alcohol as well as mental health system measures, those in the no or low regular residential group had lower percentages of subjects involved in each than the full sample (Table 29).

5.3.2 Group 2 – Peak Before Age 15 Regular Residential Involvement

The second regular residential group had child welfare involvement for the family during their adolescence, the highest percentage of time in group homes, and they were likely to spend time in a regular residential placement as well. They also had juvenile justice involvement that

Table 26 - Five-Group Demographic Descriptive Results for Regular Residential Trajectories

| | Full Sample (n = 794) | No/Low (n = 537) | Peaks 15 (n = 72) | Peaks 17 (n = 127) | Consistent (n = 58) |
|------------------|-----------------------------|---------------------|----------------------|-----------------------|------------------------|
| Sex | | | | | |
| Male | 49.2% | 47.5% | 55.6% | 48.0% | 60.3% |
| Female | 50.8% | 52.5% | 44.4% | 52.0% | 39.7% |
| Race | | | | | |
| White | 33.8% | 32.2% | 38.9% | 36.2% | 36.2% |
| African-American | 66.2% | 67.8% | 61.1% | 63.8% | 63.8% |
| Current Age | 20.46 (1.11) | 20.07 (1.10) | 19.91 (1.09) | 19.93 (1.09) | 20.09 (1.24) |

* $p < .05$

** $p < .01$

*** $p < .001$

Table 27 – Five-Group Descriptive Results for Regular Residential Trajectories - Justice System Involvement

| | Full Sample (n = 794) | No/Low (n = 537) | Peaks 15 (n = 72) | Peaks 17 (n = 127) | Consistent (n = 58) |
|---|-----------------------------|-------------------------------|------------------------------|------------------------------|------------------------------|
| Mean Number of Days in Juvenile Detention*** (n = 231) | 52.16 (66.35) | 51.76 (59.11) (n = 131) | 52.34 (44.85) (n = 28) | 32.88 (38.99) (n = 46) | 66.65 (65.55) (n = 26) |
| Mean Number of Days in County Jail (n = 145) | 31.02 (58.12) | 28.99 (59.02) (n = 87) | 18.99 (24.90) (n = 18) | 44.75 (73.99) (n = 28) | 31.81 (42.90) (n = 12) |

* $p < .05$

** $p < .01$

*** $p < .001$

was similar to the overall sample, with 52.34 days in juvenile placement ($SD = 44.85$). No one in the “peak before age 15” group had their family’s child welfare case closed before age 13. In addition to high group home involvement (93.1%), everyone in this group had experiences in regular residential placements, and no one had foster home experiences only (Table 28). This

group did, though, have a substantial percentage of subjects who experienced all three placement types (62.5%), and the lowest percentage with one type only. Those with peak involvement before age 15 in residential placement had the highest percentage of time, on average, spent in group homes ($M = 29.6\%$, $SD = .25$).

For drug and alcohol system involvement, this group was one with a high percentage of group members for both the prior and overall measures (prior: 40.3%, overall: 54.2%) (Table 29). For both the prior as well as overall measures of mental health system involvement, the “peak before age 15” group also had high percentages (prior: 83.3%, overall: 97.2%).

5.3.3 Group 3 – Peak Before Age 17 Regular Residential Involvement

The regular residential group with peaks of such involvement at around age 17 had the lowest number of days in juvenile detention of the four regular residential groups ($M = 32.88$, $SD = 38.99$) (Table 27). Those in the third residential placement group also had 7.52 child welfare placements ($SD = 4.55$) compared to the overall sample with 6.66 ($SD = 5.04$) and the no/low residential group with 5.54 ($SD = 3.83$). Most young people in the “peak before 17” regular residential group had experiences in either two (43.3%) or all three (47.2%) placement types (Table 28). The numbers remained small for those whose residential placement involvement peaked immediately prior to age 17 (5.5%) for the variable measuring the percentage of subjects whose families had their child welfare case closed prior to age 13. This group had the lowest percentage of subjects ever in foster homes (58.3%) and the highest percentage of those with regular residential placements only (3.9%)—although this number remained low overall across groups. For drug and alcohol system involvement, this group was one with high percentages of group members for both the prior and overall measures (prior: 40.2%, overall: 57.5%) (Table 29).

Table 28 - Five-Group Descriptive Results for Regular Residential Trajectories – Child Welfare Variables

| | Full Sample (n = 794) | No/Low (n = 537) | Peaks 15 (n = 72) | Peaks 17 (n = 127) | Consistent (n = 58) |
|--|-----------------------------|---------------------|----------------------|-----------------------|------------------------|
| Age at First Child Welfare Placement | 8.14 (5.25) | 7.80 (5.25) | 8.84 (5.04) | 9.42 (5.72) | 7.64 (3.86) |
| Age at Leaving Last Child Welfare Placement | 15.47 (3.94) | 14.57 (4.31) | 17.21 (1.25) | 17.45 (2.07) | 17.41 (2.23) |
| Length of Time in Placement | 4.03 (2.85) | 3.93 (2.72) | 4.04 (3.13) | 3.38 (2.59) | 6.43 (3.08) |
| Number of Placements*** | 6.66 (5.04) | 5.54 (3.83) | 8.94 (6.08) | 7.52 (4.55) | 12.33 (8.45) |
| Child Welfare Closed Before Age 13*** | 13.9% | 18.8% | 0.0% | 5.5% | 3.4% |
| Placement Type | | | | | |
| Ever in FH*** | 82.2% | 89.8% | 68.1% | 58.3% | 82.8% |
| Ever in GH*** | 59.7% | 45.4% | 93.1% | 85.0% | 94.8% |
| Ever in RR*** | 35.8% | 6.5% | 100.0% | 94.5% | 98.3% |
| Placement Type - Ever in Only | | | | | |
| FH Only*** | 36.0% | 51.8% | 0.0% | 5.5% | 1.7% |
| GH Only | 5.4% | 8.0% | 0.0% | 0.0% | 0.0% |
| RR Only*** | 1.1% | 0.4% | 1.4% | 3.9% | 1.7% |
| Number of Placement Types*** | | | | | |
| None - Other | 0.8% | 1.1% | 0.0% | 0.0% | 0.0% |
| One Type Only (FH, GH, or RR) | 42.6% | 60.1% | 1.4% | 9.4% | 3.4% |
| Two Types | 34.9% | 34.6% | 36.1% | 43.3% | 17.2% |
| Total All Three Types | 21.8% | 4.1% | 62.5% | 47.2% | 79.3% |
| Percentage of Time in FH*** | 60.8% (.41) | 76.6% (.35) | 32.5% (.32) | 26.8% (.35) | 24.8% (.26) |
| Percentage of Time in GH*** | 17.9% (.26) | 14.5% (.27) | 29.6% (.25) | 25.7% (.24) | 18.1% (.17) |
| Percentage of Time in RR*** | 14.2% (.26) | 1.41% (.08) | 32.8% (.24) | 40.8% (.30) | 51.3% (.27) |

* $p < .05$

** $p < .01$

*** $p < .001$

Table 29 - Five-Group Descriptive Results for Regular Residential Trajectories – Other System Involvement

| | Full Sample (n = 794) | No/Low (n = 537) | Peaks 15 (n = 72) | Peaks 17 (n = 127) | Consistent (n = 58) |
|---|-----------------------------|---------------------|----------------------|-----------------------|------------------------|
| Drug and Alcohol Involvement (Prior to Justice System)*** | 23.9% | 17.7% | 40.3% | 40.2% | 25.9% |
| Drug and Alcohol Involvement (Overall)*** | 38.9% | 32.0% | 54.2% | 57.5% | 43.1% |
| Mental Health Involvement (Prior to Justice System)*** | 70.9% | 64.8% | 83.3% | 81.1% | 89.7% |
| Mental Health Involvement (Overall)*** | 85.8% | 81.2% | 97.2% | 92.9% | 98.3% |
| * $p < .05$ | | | | | |
| ** $p < .01$ | | | | | |
| *** $p < .001$ | | | | | |

5.3.4 Group 4 – Consistent Regular Residential Involvement

The group with consistent regular residential involvement had the highest number of days in juvenile detention across the four regular residential trajectory groups ($M = 66.65$, $SD = 65.55$) (Table 27). They had the highest number of child welfare placements ($M = 12.33$, $SD = 8.45$) (Table 28). The numbers were small for this group in regard to percentage of subjects whose families had their child welfare case closed prior to age 13 (3.4%). This group had the highest percentage of members who were ever in group homes (94.8%), nearly everyone in this group experienced regular residential placement, and 79.3% experienced all three placement types. This group also had the highest percentage of total time spent in regular residential placements. For both the prior as well as overall measures of mental health system involvement,

those with consistent regular residential placement involvement (prior: 89.7%, overall: 98.3%) had high percentages (Table 29).

In this section, I provided the results of the trajectory analysis for three main placement types: foster homes, group homes, and regular residential facilities. The justice system trajectory groups showed variation based on child welfare placement type, and the child welfare placement trajectory analysis sets up the foundation for further analysis by examining their own within-placement type variations. By examining the three placement trajectories separately, findings showed variations in each for justice system involvement: for the foster home trajectories, the juvenile justice measure was significant, but not the adult justice system measure, whereas the reverse was true for the group home and regular residential trajectories. Some child welfare variables were not significant across all three placement trajectory groups—age at first child welfare placement, age at leaving last child welfare placement, and length of time in out of home placement. However, variations in other child welfare measures, particularly about placement type, were significant and showed the variety of placement experiences. The next section combines these trajectories to add further nuanced detail on the placements of young people with justice system and child welfare experiences.

5.4 CROSS-TABULATIONS

To provide more detail in understanding the relationship between justice system group membership and the three main child welfare placement types, I performed cross-tabulations. By comparing trajectory groups in this way, the commonalities between trajectory group membership is made more explicit (Piquero, Fagan, Mulvey, Steinberg, & Odgers, 2006). I present the results of all cross-tabulation combinations in Table 30. All models were statistically significant. The first three cross-tabulations are organized by columns of justice system groups,

and the percentages of each justice system group in each of the three placement trajectory types examined: foster home (Table 31), group home (Table 32), and regular residential (Table 33). I made comparisons across the rows of each of the placement types, to check for patterns and differences. First, I discuss the results of the justice system groups by each of the three child welfare placement types. Then, I provide the findings of the child welfare placement cross-tabulations with each other.

Table 30 – Overall Cross-tabulations

| Model | χ^2 | p | Cramer's V | Cohen's w |
|---|----------|--------|-----------------|----------------|
| Justice System X Foster Home | 32.719 | 0.008 | 0.101 | 0.202 |
| Justice System X Group Home | 44.405 | <0.001 | 0.118 | 0.236 |
| Justice System X Regular Residential | 40.885 | <0.001 | 0.131 | 0.227 |
| Foster Home X Group Home | 73.694 | <0.001 | 0.152 | 0.304 |
| Foster Home X Regular Residential | 52.479 | <0.001 | 0.148 | 0.256 |
| Group Home X Regular Residential | 239.806 | <0.001 | 0.317 | 0.549 |

5.4.1 Justice System Trajectories by Foster Home Trajectories

Overall, young people in the justice system groups with no to low involvement, the early-agers, and those with short term but high involvement in the justice systems had similar patterns

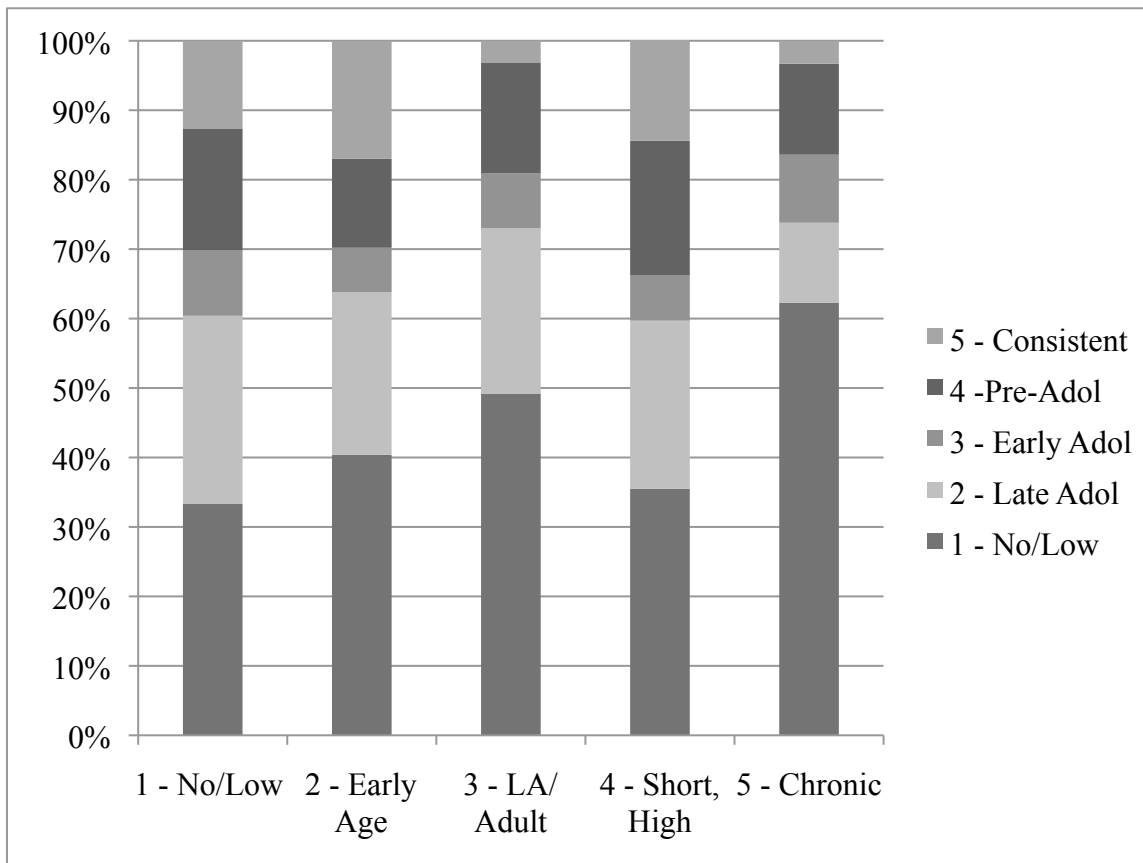
of foster home group membership across the five foster home groups, as shown in Table 31. The same information is presented graphically in Figure 5.

Table 31 - Justice System Group X Foster Home Group Cross-tabulation

| | | Justice System Group | | | | |
|-------------------|-----------------|----------------------|---------------|--------------|-----------------|-------------|
| | | 1 - No/Low | 2 - Early Age | 3 - LA/Adult | 4 - Short, High | 5 - Chronic |
| Foster Home Group | 1 - No/Low | 33.3% | 40.4% | 49.2% | 35.5% | 62.3% |
| | 2 - Late Adol. | 27.1% | 23.4% | 23.8% | 24.2% | 11.5% |
| | 3 - Early Adol. | 9.4% | 6.4% | 7.9% | 6.5% | 9.8% |
| | 4 - Pre-Adol. | 17.5% | 12.8% | 15.9% | 19.4% | 13.1% |
| | 5 - Consistent | 12.7% | 17.0% | 3.2% | 14.5% | 3.3% |

Young people in the chronic justice system group had the highest percentage of subjects, across the justice system groups, who were also members of the no/low foster home group (62.3%). Those in the chronic justice system group also had the lowest percentage of members across the trajectory groups with late adolescent foster home experiences (11.5%). This may be due to the chronic justice system group being more involved in the justice systems or placements more restrictive than foster homes, in late adolescence. Most young people in the in the no/low justice system group were either in the no/low foster home group, followed by the late adolescence foster home group (27.1%). The chronic justice system group and the no/low justice system groups had similar percentages of young people in the early adolescent foster home group (chronic: 9.8%, no/low: 9.4%). Those in the short-term, highly involved justice system group had the highest percentage in the pre-adolescent foster home group (19.4%). Those in the early age justice system group (17.0%) had the highest percentages in the group with consistent foster home involvement, and the least came from the late adolescence into adulthood group (3.2%) and the chronic justice system group (3.3%).

Figure 5 - Justice System Group X Foster Home Group Cross-tabulation



In presenting the results of the descriptive information of the justice system groups, I made comparisons between justice system groups 2 (the early agers) and 5 (the chronically involved). However, differences in the cross-tabulation results are again noted here, as the early age justice system group had nearly six times more young people present in the foster home group with consistent foster home placements (17.0%) compared to the chronic justice system group (3.3%).

5.4.2 Justice System Trajectories by Group Home Trajectories

The short term, high involvement justice system group and the chronic justice system group have relatively similar group home trajectory groups. However, one exception to this was those with chronic justice system involvement, who had 16.4% of its young people represented

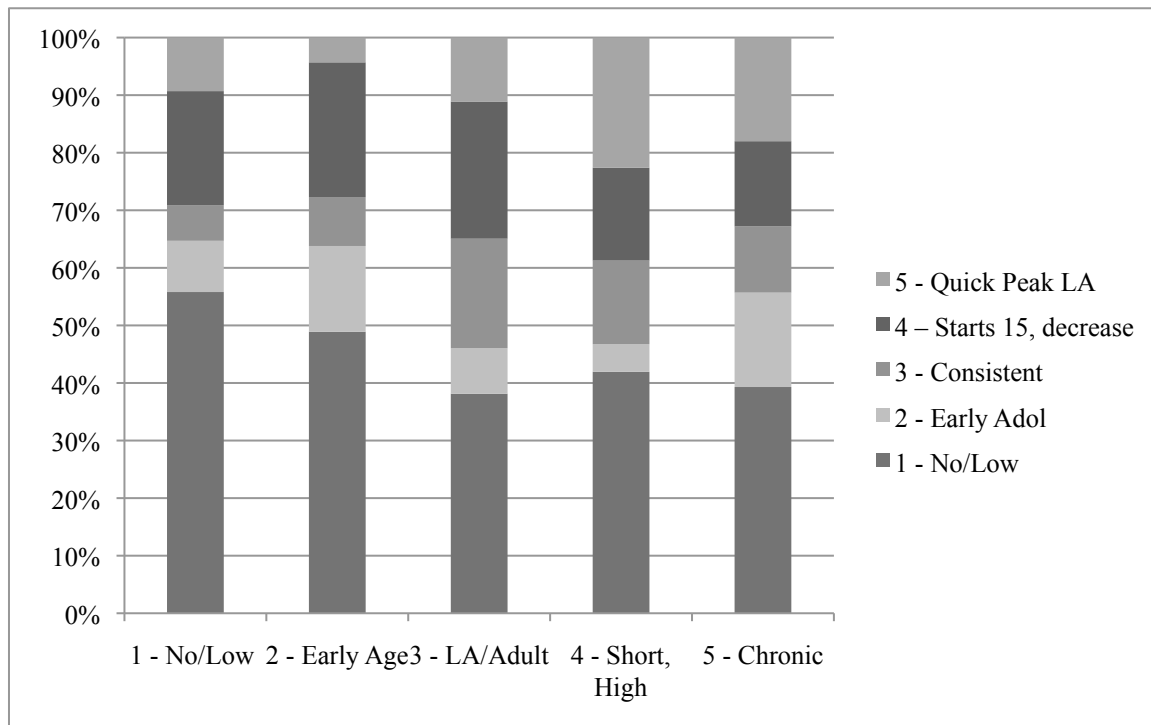
in the early adolescent group home group, compared to the 4.8% of young people with short term, high justice system involvement (see Table 32). This same information is presented in graphic form in Figure 6. Most of those with no to low justice system involvement were also in the no to low group home trajectory group (55.8%), followed by the early age justice system group (48.9%) and the short term, highly involved justice system group (41.9%).

Similarities between the early age justice system group and the chronic justice system group emerged when examining group home cross-tabulations. Most young people in the chronic justice system group (16.4%) and the early age justice system group (14.9%) were in the early adolescent group home group. The lowest percentage for the short term, high involvement justice system group was the early adolescent group home group (4.8%).

Table 32 - Justice System Group X Group Home Group Cross-tabulation

| | | Justice System Group | | | | |
|------------------|--------------------------|----------------------|---------------|--------------|-----------------|-------------|
| | | 1 - No/Low | 2 - Early Age | 3 - LA/Adult | 4 - Short, High | 5 - Chronic |
| Group Home Group | 1 - No/Low | 55.8% | 48.9% | 38.1% | 41.9% | 39.3% |
| | 2 – Early Adol. | 8.9% | 14.9% | 7.9% | 4.8% | 16.4% |
| | 3 - Consistent | 6.2% | 8.5% | 19.0% | 14.5% | 11.5% |
| | 4 - Starts 15, Decreases | 19.8% | 23.4% | 23.8% | 16.1% | 14.8% |
| | 5 - Quick Peak LA | 9.3% | 4.3% | 11.1% | 22.6% | 18.0% |

Figure 6 - Justice System Group X Group Home Group Cross-tabulation



I found similarities between groups 3 and 4 for the justice system groups—those with late adolescent involvement into adulthood and those with short term, high involvement. Those in the late adolescence into adulthood justice system group (19.0%), followed by the short term high group (14.5%) had the highest percentages in the consistent group home involvement group.

Those in the early age justice system group (23.4%) or the group with late adolescence into adulthood (23.8%) had the highest percentages in the group home trajectory group with experiences starting at age 15 and then decreasing. The short term but high justice system group was most present in the group home group with a quick peak of involvement in late adolescence (22.6%). The early age justice system group (4.3%) had the least in the group home trajectory group with a quick peak of involvement in late adolescence.

5.4.3 Justice System Trajectories by Regular Residential Trajectories

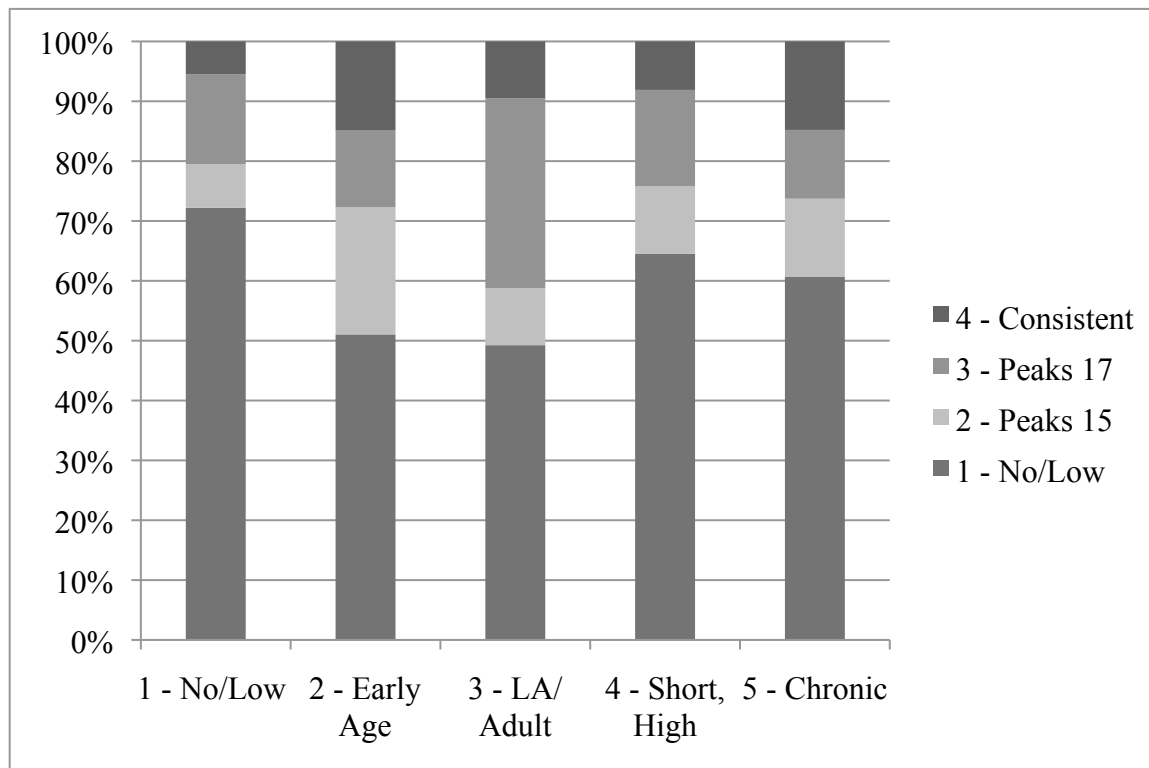
Given that the regular residential placement type is considered more restrictive than group homes or foster homes, and that the goal of child welfare placements is to provide the least restrictive setting for young people while meeting their needs, it is not surprising that many young people in the justice system groups did not have large percentages of youths involved in trajectory groups of involvement in regular residential placements. The no/low justice system group had the highest percentage of young people who did not have regular residential involvement (72.2%), and while the early age group had the lowest (51.1%) this finding still shows that young people overall were not as involved in regular residential placements as group homes, and especially foster homes (Table 33). By performing separate trajectories for group homes and regular residential placements, this difference in percentages of young people is evident. Figure 7 presents this same information in a graphic.

I also found different patterns in the justice system trajectory group cross-tabulations with the group home trajectory groups. Those in the early age justice system group had nearly three times the amount of young people in the regular residential group with a peak of such involvement around age 15, and more than the chronic justice system as well. Again, this highlights the differences that occur at later ages between the early age and chronic justice system groups, as the early age group tends to have involvement in regular residential placement at younger ages. Additionally, an interesting finding occurred for the justice system group with involvement from late adolescence into adulthood in that they had nearly twice the amount of young people in the regular residential group with a peak of placement around age 17 (31.7%).

Table 33 –Justice System Group X Regular Residential Group Cross-tabulation

| | | Justice System Group | | | | |
|---------------------------|----------------|----------------------|---------------|--------------|-----------------|-------------|
| | | 1 - No/Low | 2 - Early Age | 3 - LA/Adult | 4 - Short, High | 5 - Chronic |
| Regular Residential Group | 1 - No/Low | 72.2% | 51.1% | 49.2% | 64.5% | 60.7% |
| | 2 - Peaks 15 | 7.3% | 21.3% | 9.5% | 11.3% | 13.1% |
| | 3 - Peaks 17 | 15.0% | 12.8% | 31.7% | 16.1% | 11.5% |
| | 4 - Consistent | 5.5% | 14.9% | 9.5% | 8.1% | 14.8% |

Figure 7 – Justice System Group X Regular Residential Group Cross-tabulation



The interrelationship between group home and regular residential placements is evident in the cross-tabulations with justice system involvement. It also demonstrates this particularly for groups 2 (early agers) and 5 (chronically involved) of the justice system groups. For the regular residential placement group with such involvement peaking at age 15, the early age justice

system group had the highest of any justice system group (21.3%). This percentage was higher than the percentage in the chronic justice system group (13.4%). The early agers for justice system involvement had more young people peak in residential placement at age 15 and then decrease. The chronic justice system group had a lower percentage, but it is likely that their involvement in child welfare as well as justice system placements increased. The chronic justice system group also was the group with the highest percentage of young people in the early adolescent group home group, with 16.4% of those in the chronic justice system group, and near highest for consistent regular residential involvement (14.8%).

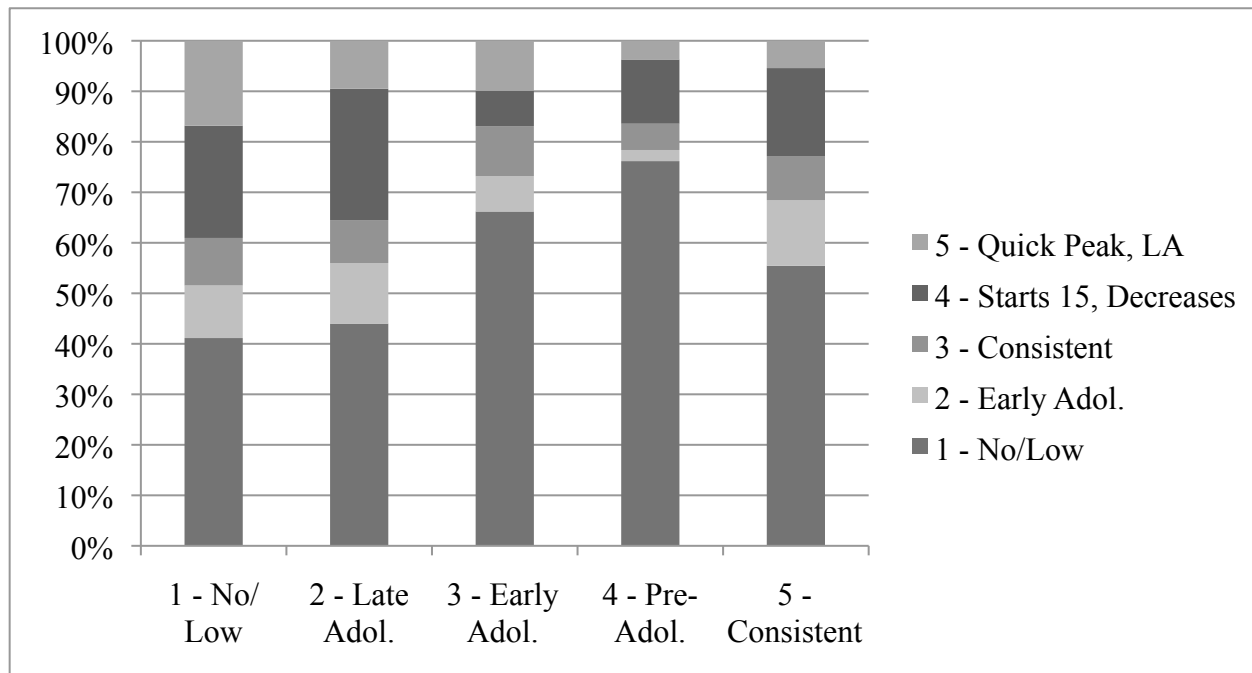
5.4.4 Child Welfare Placement Type Trajectory Cross-tabulations

In addition to the cross-tabulations for the justice system trajectory groups with each of the child welfare placement trajectory groups, I also conducted cross-tabulations comparing each of the three main placement types—foster home, group home, and regular residential—with one another to explore the relationships they have with each other (Tables 34 – 36). This same information is presented graphically in Figures 8 – 10.

Table 34 – Foster Home Group X Group Home Group Cross-tabulation

| | | Foster Home Group | | | | |
|------------------|--------------------------|-------------------|----------------|-----------------|---------------|----------------|
| | | 1 - No/Low | 2 - Late Adol. | 3 - Early Adol. | 4 - Pre-Adol. | 5 - Consistent |
| Group Home Group | 1 - No/Low | 41.1% | 44.0% | 66.2% | 76.1% | 55.4% |
| | 2 - Early Adol. | 10.4% | 12.0% | 7.0% | 2.2% | 13.0% |
| | 3 - Consistent | 9.4% | 8.5% | 9.9% | 5.2% | 8.7% |
| | 4 - Starts 15, Decreases | 22.2% | 26.0% | 7.0% | 12.7% | 17.4% |
| | 5 - Quick Peak, LA | 16.8% | 9.5% | 9.9% | 3.7% | 5.4% |

Figure 8 - Foster Home Group X Group Home Group Cross-tabulation



For the foster home and group home trajectory comparisons, those in the pre-adolescent foster home group had the highest percentage of young people in the no/low group home group; this group of young people experienced foster homes relatively early on, but did not move to group homes as they became older. The consistent foster home group (13.0%) and the late adolescence foster home group (12.0%) had the highest percentages for those with early adolescent group home involvement. Those with no/low foster home experience did have the highest percentage across the foster home groups of young people in the group home group with a quick peak of involvement in late adolescence (16.8%).

The regular residential trajectories and foster home cross-tabulations had less of a relationship in terms of overlap in placement experiences than regular residential and group home placements. Those with consistent involvement in regular residential placements had more young people in the no/low foster home group (44.8%) (Table 35) than the no/low group home group (34.5%) (Table 36). Similarly, young people with consistent regular residential placements

had less young people in the consistent foster home group (12.1%) than the consistent group home group (29.3%). Thus, the cross-tabulations of group homes and regular residential placements demonstrates the relationship between these two congregate care settings. This also solidifies the justification for constructing the congregate care variable used in the multinomial logistic regression predicting justice system group membership.

Table 35 – Regular Residential Group X Foster Home Group Cross-tabulation

| | | Regular Residential Group | | | |
|----------------------|-----------------|---------------------------|-----------------|-----------------|-------------------|
| | | 1 - No/Low | 2 - Peaks 15 | 3 - Peaks 17 | 4 - Consistent |
| Foster Home Group | 1 - No/Low | 30.4% | 51.4% | 55.9% | 44.8% |
| | 2 - Late Adol. | 26.8% | 19.4% | 22.8% | 22.4% |
| | 3 - Early Adol. | 10.1% | 9.7% | 3.1% | 10.3% |
| | 4 - Pre-Adol. | 20.9% | 2.8% | 11.0% | 10.3% |
| | 5 - Consistent | 11.9% | 16.7% | 7.1% | 12.1% |

Figure 9 – Regular Residential Group X Foster Home Group Cross-tabulation

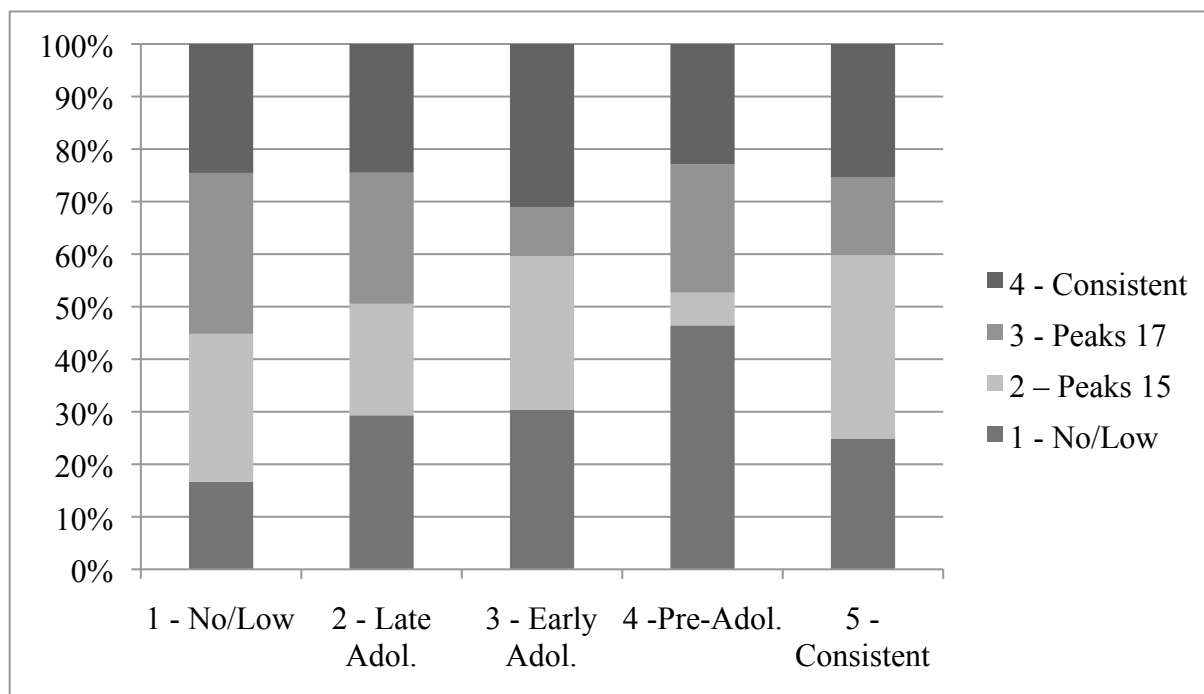
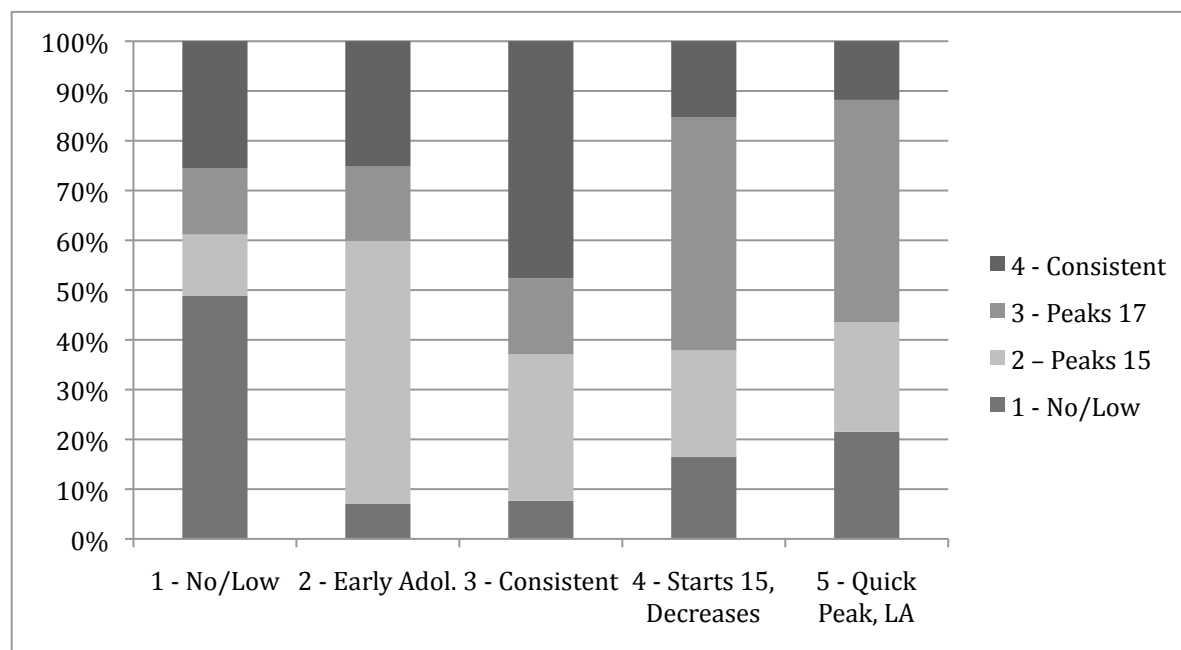


Table 36 – Regular Residential Group X Group Home Group Cross-tabulation

| Group Home Group | Regular Residential Group | | | |
|--------------------------|---------------------------|--------------|--------------|----------------|
| | 1 - No/Low | 2 - Peaks 15 | 3 - Peaks 17 | 4 - Consistent |
| 1 - No/Low | 66.1% | 16.7% | 18.1% | 34.5% |
| 2 - Early Adol. | 4.8% | 36.1% | 10.2% | 17.2% |
| 3 - Consistent | 4.7% | 18.1% | 9.4% | 29.3% |
| 4 - Starts 15, Decreases | 14.9% | 19.4% | 42.5% | 13.8% |
| 5 - Quick Peak, LA | 9.5% | 9.7% | 19.7% | 5.2% |

Figure 10 – Regular Residential Group X Group Home Group Cross-tabulation



5.4.5 Summary of Cross-tabulations

The results of the cross-tabulations provide further detail of young people's experiences, particularly showing the overlap of the justice system groups with the three child welfare placement types. A couple of important findings have meaningful implications from this analysis. First, is the potentially helpful influence of foster homes. Although severity and

complexity of an individual's child welfare case is not addressed in this analysis, findings demonstrate that foster homes may be particularly beneficial for young people in child welfare. Young people in the chronic justice system group had consistently more experiences in congregate care settings and not in foster homes. The early age justice system group had a high percentage of young people with consistent foster home experiences. This suggests that while youths may become involved in the juvenile justice system at a young age, foster homes may be beneficial in protecting them from future involvement. Also, the early age group tended to have placements in regular residential settings at relatively younger ages, but not further justice system involvement, which indicates they may have these placement experiences and then other experiences that are positive influences on them.

The second finding to highlight is that a key age period for these youth is around 17 and 18 years old. While these are typical peaks in justice system involvement, it is important to note that this is also when youth are typically aging out of the child welfare system. For example, the justice system group with short term but high involvement around this age also was the second largest group with their involvement in regular residential settings peaking at age 17. Other findings in the cross-tabulations similarly showed the peaks in congregate care settings around this age as well.

Through cross-tabulations of all the trajectory groups, I was able to provide more nuanced detail of the relationship between the justice system groups and the child welfare groups. Discussing similarities and differences of the overlap in groups offers an organized way to examine the placement experiences of justice system youth. The child welfare trajectory cross-tabulations add by showing the interrelationships among placements, especially group home and regular residential placement types.

6.0 DISCUSSION

6.1 SUMMARY

This study's purpose is to demonstrate how young people with out of home placement experiences in the child welfare system differ in their extent of involvement in the justice system over time, and then examine the differences between justice system involvement based on demographics, child welfare experiences, and involvement in other systems. I achieved these objectives using trajectory analysis, multinomial logistic regression, and cross-tabulations. The sample consisted of 794 young people from a larger study of a birth cohort in Allegheny County, Pennsylvania, selecting one child per family with one year or more in out of home placement in the child welfare system. I produced justice system trajectories and child welfare placement trajectories for three main placement types—foster homes, group homes, and regular residential placements—to examine the similarities and differences between group experiences, with particular emphasis on factors related to justice system trajectory group membership. Due to the current paucity of research specific on this topic, this study is incremental, yet important for providing detailed information on the groups within the larger population of young people in the child welfare system with justice system experiences. Understanding these similarities and differences are key to drawing attention to the underlying heterogeneity in justice system involvement among the child welfare population, which then informs more effective and efficient programs, policy, and practice methods.

6.1.1 Discussion of Key Findings

I identified five trajectory groups of justice system involvement for young people who had substantial experiences in out of home placements in the child welfare system. These five groups were labeled the following, based on their age and probability of justice system involvement: no/low, early age, late adolescent into adulthood, short term but high involvement, and chronic justice system involvement. Using the three theoretical frameworks that informed this study, these groups had similarities to those in the general population as asserted by Moffitt (1993) and Sampson and Laub (1993). This chapter discusses the study's main findings as related to the conceptual frameworks utilized in this study, considers these findings within a larger context, presents implications for practice and policy, addresses limitations and strengths, and provides directions for future research.

This study showed that the majority of young people with child welfare placements have no to low justice system involvement but that, of those that do, distinct variations in groups on age—meaning the ages at when young people began justice system involvement, ended justice system involvement, and had peaks of probability of justice system involvement—emerge. The finding that most youth do not have substantial experiences in the justice systems is consistent with previous research on the child welfare population's involvement in the justice systems (Stewart et al., 2008), as only 26% of Widom's original sample had juvenile offenses (Widom, 1989a). Overall, most child welfare youths have no or low justice system involvement, and would be considered “abstainers” using Moffitt's (1993) label for the general population of young people. Moreover, it is the smaller groups who do become involved in the juvenile and adult justice systems and that have different trajectories that are of particular interest to discuss here. By studying more about these at-risk groups—their demographics, child welfare

experiences, and other system experiences—we can come to better target our policies, programs, and dialogue regarding what factors differentiate them and how to most effectively address their needs.

Moffitt's (1993) developmental taxonomy, used to classify the general population of young people's behavior, identified three main groups, while this study, purposefully focusing on child welfare youth, found five. These distinct variations may be important when considering the different pathways of child welfare youth specifically. While it is positive that many child welfare youths do not become involved in the justice systems, there nevertheless are smaller groups that have substantial involvement and need our attention and use scarce system resources. Taken as a whole population, those with child welfare experiences could mistakenly be treated as a homogenous group, or their unique experiences muddled when only addressing general population samples. However, this study demonstrates the heterogeneity of their groupings based on justice system involvement. The child welfare placement trajectories specifically highlighted some of the key differences: for the foster home trajectories, the juvenile justice measure of juvenile detention was not significant across groups, while the adult system measure of county jail involvement was. For the group home and regular residential trajectories, though, the reverse was found, where the juvenile justice system measure was significant in both trajectory models, whereas the adult system measure was not. This is why this study was valuable: to begin to help identify the specific factors, especially child welfare placement experiences that are related to justice system and other outcomes, in a sample of child welfare youth.

While additional groups were found in this study, there were many similarities with those found in Moffitt's groups. Moffitt (1993) identified a group of adolescent-limited offenders who are involved as youths but do not continue into adulthood. This study identified two groups that

are similar to Moffitt's description in that they are adolescent-limited. For these two groups, one had a higher probability of juvenile justice system involvement and in a relatively short time span, while the other group follows a pattern more aligned with Moffitt's assertions in that the early age group has involvement at the beginning of adolescence that then decreases as they age. The latter group is more aligned with the description Moffitt provides of the adolescent-limited offender in that justice system involvement occurs early in adolescence and then decreases. However, it is interesting to note the age of the short term, highly involved group identified in this study, as their peak of involvement occurred around ages 17 and 18. While this is a turbulent time for any young person, as they transition to being legally recognized as an adult, this is also an extremely tumultuous time period for child welfare youth, as they are likely aging out of the system. This carries with it its own unique issues as they transition to independence and are especially susceptible to adverse outcomes in areas of health, education, employment, and being homeless (Collins, 2001; Courtney et al., 2010). Similarly, other studies point to the need for paying particular attention to young people who are in institutional placements and aging out of the child welfare system (Cusick et al., 2011). Indeed, results of the cross-tabulations highlighted some positive and negative findings around this age. First, the second highest foster home group in the no/low justice system group was from the late adolescent foster home group, which indicates a potentially helpful relationship of foster care with justice system outcomes. On the other hand, though, other young people demonstrated a peak in justice system involvement during this age range, and the cross-tabulations showed the short term, high involvement justice system group had a high percentage of regular residential placement peaking at around age 17. Considering that the theoretical frameworks of the general population do not specify this short term group or explicitly acknowledge these experiences, further study of how this specific age

range is related to justice system involvement for child welfare youth is worthwhile, as this is likely a key time period when support and interventions of young people are especially critical.

Another group that Moffitt (1993) describes in her developmental taxonomy is the chronic offenders who engage in delinquent and then criminal acts at every age time point. Although there was a group labeled as “chronic” within this study, there were two groups that fit this model, even though one had a later start in terms of juvenile justice involvement. Thus, I characterize both the chronic as well as the late adolescence into adult justice system groups as having similar characteristics to Moffitt’s life-course persistent offender. First, the chronic justice system group in this study was a small percentage of the overall sample, and Moffitt’s life-course persistent offenders also comprise a small percentage of the general population. Second, the late adolescence into adult justice system group was relatively small as well. This group did not demonstrate justice system involvement at every age in the study’s range, but still demonstrated substantial involvement across the age range overall. It would be interesting for future studies to address in depth the behaviors of this group that do not appear in the findings given the measure of formal justice system involvement, but to see if those in the late adolescence into adult justice system group demonstrated antisocial behavior in less formal ways before entering into formal justice system involvement. This group does not have formal justice system involvement in early adolescence, but they may demonstrate behaviors in other ways, such as disciplinary action in school or reports on behavior from parents. The late adolescence into adulthood group is not one explicitly identified in Moffitt’s taxonomy, but raises interesting questions as to whether such a group is found in the general population or might be unique to child welfare populations with out of home placement experiences.

In this study, Sampson and Laub's (1993) age-graded life-course perspective supplements Moffitt's developmental taxonomy. Although it is beyond the scope of this dissertation to specifically examine turning points for individuals in the early age justice system group that turned them away from continued juvenile justice system involvement, findings do offer some insights as related to demographics, child welfare experiences, and other system involvement. For the early age justice system group, sex was the only significant variable that was related to group membership over the no/low justice system group. Child welfare system measures and the dichotomous measures of other system involvement were not significant. The early age group entered child welfare placements at an age similar to those in the no/low justice system group and spent the longest time in out of home placement than any of the trajectory groups. They also had similar child welfare patterns with the chronic group, but the early agers are distinct in that their justice system involvement decreased, while it continued on for the chronic group. This indicates that other factors are at play for what distinguishes this group and their experiences from those who do not have the same extent of justice system involvement. The cross-tabulations findings showed that the chronic justice system group had more experiences in congregate care placements than in foster homes, and the early age justice system group had the highest percentage of young people in the foster home group with consistent involvement. What other, additional intervening factors and characteristics of this group influence this trajectory that prevents them from continuing their justice system involvement throughout adolescence? Could it be factors related to their school experiences, peer relationships, or other child welfare system variables? Sampson and Laub (1993) acknowledge the role of external factors on young people's experiences, and future research can address this further.

Maschi and colleagues' (2008) social-justice conceptual framework for understanding the multiple system involvement of young people is applicable to the findings of this study. The social-justice framework recognizes that young people often become involved in one system, and then stay involved in one system or another, which develops into a "cycle of services." This cycle of services was evident in the sample as most young people had high percentages of service involvement of some type and across systems. Although it is known that child welfare can be a gateway to other services (Woodhouse, 2007), the heavy service use, particularly of mental health, throughout the groups indicates that the "cycle of services" merits additional attention. Examining the drug and alcohol and mental health variables for involvement prior to the justice system and also overall, it is evident that systems play a role of some kind in keeping young people involved in systems. However, timing and order of services are not made explicit in the social-justice model, nor in this study. Regardless, this study shows the large percentages of young people with multiple systems involvement, and that they have unique group experiences based on their level of justice system involvement.

The social-justice model also recognizes that individual factors contribute to system involvement, including sex, and being a person of color (Maschi et al., 2008). In the results, some justice system trajectory groups especially highlighted which specific groups these characteristics seemed to apply more to than others. For sex, the early age group, the group with involvement from late adolescence into adulthood, and the chronic group all had more males than females. The already overrepresented young people who were African-American in the sample were more pronounced in the short term but high involvement and the chronic justice system groups. While previous research found placement helpful for African-American youth

(Jonson-Reid & Barth, 2000a; DeGue & Widom, 2009), I found that this relationship was different when considering justice system group membership.

To further examine the role of these variables, I performed multinomial logistic regression for predictors of justice system group membership. To summarize, for demographics, sex was a significant predictor for all the justice system group comparisons in that males were more likely than females to be members of a group with any type of justice system involvement, when each were compared to the no/low justice system group. Race was significant for the short term, highly involved group and the chronic group in that African-Americans were more likely than whites to be in these groups than in the no/low justice system group. Race was not significant for the early age or late adolescence into adulthood groups. This part of the data analysis acknowledged the role of individual factors, particularly sex, as related to group membership. Consistent with existing research on justice system involvement, males are more likely than females to have involvement. There were racial differences across groups, which adds to the complex role race plays in justice system involvement. Additionally, while the results of the regression, in particular, highlighted the role that demographics such as sex and race play for the justice system trajectories, it is worth noting that for the group home trajectories that race was not significant across groups and for the regular residential placement trajectories, neither sex nor race were significant. I specifically discuss race and the implications of these findings in the study later in this chapter.

For child welfare variables, important variations emerged between the justice system groups, showing how factors affected them differently. Length in out of home child welfare placement was significant between those with late adolescence into adult justice system involvement when compared to those with no or low justice system involvement, but not for the

other justice system groups. Similarly, number of child welfare placements was significant for this group as well, suggesting that placement experiences, when thought of as length in out of home placement and number of placements, is a significant predictor of group membership for being in the late adolescence into adulthood group versus those with no/low justice system involvement. However, for the short term but high involvement group, number of placements was significant, but not length of time in out of home placement. This study found aspects of placement as operationalized by length of time in placement and number of placements to be true for two of the justice system trajectory groups. Thus, placement matters, but affects different groups differently.

Although there were significant differences between the justice system groups when compared with the no/low justice system group, there were also a number of child welfare variables that were not significant. I found no significant differences for any of the groups when compared to those with no or low justice system involvement on whether or not a young person had their family's child welfare case closed prior to age 13. Similarly, I found no significant differences for age at first child welfare placement. The justice system and placement trajectories confirmed that age at first placement was not significant in this study. This is congruent with previous research that found that the variables sex and race had a greater effect on justice system outcomes than whether one had experienced childhood maltreatment (Widom, 1989a). This is not to say, though, that child welfare experiences do not matter. For example, although age at first child welfare placement in particular was not significant, findings indicated that in certain circumstances, family involvement in child welfare prior to or after age 13 mattered. This suggests that perhaps variables at the family-level play a role more so than individual factors such as age for some young people and should be explored further.

For other systems, overall drug and alcohol system involvement was significant for three of the four groups with justice system activity, when compared to those with no to low justice system involvement. However, in examining overall mental health involvement, having involvement was only a significant predictor of being a member of the late adolescence into adulthood group when compared to those with no to low justice system involvement. Research is scarce on how these other systems have specific relationships with the child welfare and justice systems. Therefore, these dichotomous measures are a start to examining this relationship, and can begin to indicate to whom services might be most effective. Also, given the known interrelationship between child welfare and mental health systems (Garland et al., 1996; Woodhouse, 2007), it is interesting that mental health involvement was not significant across more groups. Drug and alcohol system involvement was significant in three groups compared to mental health with only one, which suggests that the relationship between drug and alcohol merits further study into the exact nature of this relationship using more detail on mental health variables.

Results of the regression and other analyses suggest that foster homes are associated with less justice system involvement, and that when examining child welfare placement types, that they affect justice system groups differently. Across groups, ever being in congregate care was only a significant predictor for the chronic justice system group when compared to those with no or low justice system involvement. This indicates the need to further address the heterogeneity within the child welfare population, as previous research found a significant relationship between group homes and the juvenile justice system, thus questioning the use of this type of child welfare placement (Ryan et al., 2008). This study adds to the level of detail needed on this relationship, as it also shows that placement does not affect all young people the same. This was

particularly demonstrated given that it was only the chronic justice system group who had a significant finding. The results from the cross-tabulations also showed some of these placement type differences, as the chronic justice system group did not have a strong presence in the foster home trajectory groups; rather, they had more congregate care experiences. The chronic group had more people experience group homes at younger ages. For regular residential placements, while most were in the no/low group, they also had a substantial presence in both the group that peaked at age 17 or had consistent regular residential involvement (as opposed to peaking at age 15). It is worth noting, though, the limitation that I was not able to address whether the quality of placements would lead him or her toward pathways of justice system involvement regardless of placement type.

Additionally, what this study demonstrates is the interrelationship between group home involvement and regular residential facilities. Of course this is not new, as scholars and practitioners alike know that congregate care settings are related. However, this study highlights the interrelationships between the two, and shows how certain justice systems groups are more likely to experience these specific child welfare placement types. This was demonstrated especially in the cross-tabulations for group home and residential placements, as those who had consistent involvement in both comprised a substantial number of young people.

I made group comparisons to provide further detail of the patterns as well as differences between groups, and especially to add richness to comparisons by extending beyond relationships with only the no/low justice system group. Although the justice system trajectory groups had similarities, they also had clear differences. This was evident not only in terms of their justice system involvement, but demographics, placement experiences, and other system involvement as well: some groups had more males, while some had more African-Americans

than whites; the chronic justice system group had substantial involvement in group homes and regular residential placements; and there were placement experience differences between groups for justice system involvement groups. Specifically, the late adolescence into adult and chronic justice system groups had high number of placements, especially considering they had the shortest child welfare time in placement, and percentages of child welfare family involvement after age 13.

Another major group comparison is between the early age and the chronic justice system groups. The early age justice group is almost like the chronic group in that they began justice system involvement around similar ages and had somewhat common trajectories, yet they then split, with the early agers exhibiting a decrease in probability of justice systems involvement, yet the chronic group continues on as they grow older. Both are heavily involved in the drug and alcohol as well as mental health systems, as Maschi and colleagues' (2008) conceptual framework describes the interrelationships between systems and how young people can easily move from one to another. Exact timing was not accounted for in the study, but the use of prior and overall measures of drug and alcohol and mental health involvement do show the substantial increases once young people enter the justice system. This occurred for both groups, but especially for the chronic group. Although the mental health variables were not significant across groups, the percentages of young people within each were extremely high. Nearly everyone in the early age and chronic groups received mental health services overall. Thus, these systems are important to consider when understanding youths' experiences, as many have heavy involvement not only in the child welfare and justice systems, but other systems as well. Another distinction between the two groups is that the early age group had more experiences in foster homes than the

chronic group, which raises questions about the role of placement types on the justice system trajectories.

6.2 RACE AND BROADER CONTEXT

I found a number of key findings about race in this study, with important implications that especially highlight the overrepresentation of young people who are African-American in the child welfare and justice systems. The context and meaning of the results are paramount to adding to the understanding of the experiences and outcomes of these young people. I discuss some of them here to add to our knowledge of racial findings within the broader context.

First, was the substantial overrepresentation of African-American young people in my overall sample. While existing research has firmly established overrepresentation in both the child welfare and justice systems (Hill, 2006), it is worth noting that this study is consistent with prior research. Allegheny County, Pennsylvania, which includes the city of Pittsburgh, has 13.2% of its population who are African-American (U.S. Census Bureau, 2012).

Overrepresentation of African-American young people is present in the child welfare population in the county, as approximately 47% of the individuals in the larger DHS study, which represent the county's child welfare population, are African-American. From the child welfare standpoint, African-Americans are more likely to receive out of home placement than whites, thus it was expected that this trend of overrepresentation would carry over into my study sample, which it did. The final sample demographics comprised of 66% African-Americans. Although this was expected, it needs to not be taken lightly, particularly in comparison to the much smaller percentage of African-Americans in Allegheny County.

In addition to the overrepresentation of African-Americans in the full sample, race was not evenly distributed among the justice system trajectory groups, with some groups having

significantly higher percentages of African-Americans. Also, given that there is overrepresentation of young people of color in the juvenile justice system (Janku & Yan, 2009), it was expected that this would, again, appear in my results as well. However, the stark contrast in racial composition in a number of the trajectory groups is important to add to our understanding of the variations of justice system involvement among young people in child welfare. There were more whites than African-American young people in the no/low justice system group. The percentages of African-Americans in the early age group and the late adolescence into adulthood group were generally consistent with the overrepresentation already existing in my sample. Moreover, though, the short term, high involvement group had 83.9% African-Americans, and the chronic justice system group had 86.9%. The results of the trajectory groups, then, demonstrate that for this sample of child welfare young people, who have substantial experiences in out of home placement, overrepresentation is even more present in some of the justice system groups than others. As previously mentioned, research shows the overrepresentation of young people who are African-American, and this study is consistent with previous findings (National Council on Crime and Delinquency, 2007; Janku & Yan, 2009). However, there are fewer studies on the variations of overrepresentation of African-American youth with justice system and child welfare involvement. Based on existing studies, though, we know that overrepresentation is present as well. As Ryan, Herz, and colleagues (2007) noted for their study on youth with involvement in both systems, “maltreated youth account for 7% of all first time offenders, but they account for 14% of all African Americans” (p. 1045).

While in some ways, focusing on young people with substantial out of home placements, who are at risk for justice system involvement, limits the generalizability of this study in that they are more likely to be young people of color, in other ways it addresses a vulnerable and real

subgroup within the child welfare system. There is limited research on young people's similarities and differences with regard to placement experiences and justice system involvement, let alone research that particularly recognizes the racial differences in child welfare and justice system groups, and these findings show the variations that exist in race among the justice system groups.

Findings on race need to be interpreted carefully and with consideration of surrounding context. For example, there were racial differences on separate analyses that I ran for drug and alcohol and mental health system involvement that are consistent with previous research on service usage, or lack thereof, of African-Americans within multiple systems. While there was not a significant difference between whites (41.8%) and African-Americans (37.5%) on overall drug and alcohol system involvement, there was a significant difference for mental health ($p < .01$). A larger gap existed for mental health, in that 90.7% of whites in the sample had mental health system involvement at some time during the age range studied, while this number was only 83.3% for young people who were African-American. While findings on drug and alcohol system involvement are few in existing research (Dembo, 1996), the racial difference is consistent with prior research for mental health system usage. Previous studies found that African-Americans were not only overrepresented on juvenile justice system measures, but underrepresented in regards to mental health services (Garland et al., 2001; Janku & Yan, 2009). Other research had similar findings of African-American youths not receiving needed mental health services (Rawal, Romansky, Jenuwine, & Lyons, 2004), and that whites were more likely to receive mental health referrals than African-American young people in the juvenile justice system (Rogers, Pumariega, Atkins, & Cuffe, 2006). Maschi and colleagues summarize that results such as these demonstrate that the mental health needs of African-American youth are not

being met, even when they are in the juvenile justice system (Maschi et al., 2008), further adding to the need to acknowledge and take action to address these racial differences.

While this study cannot control for every factor regarding race and overrepresentation in the child welfare and justice systems, the racial implications from the existing findings merit discussion of the surrounding context. Race needs more of our attention and brought into the dialogue regarding young people and social problems, especially for the already-vulnerable groups of young people with both child welfare and justice system involvement.

When compared to adults, young people are already considered unlike their grown-up counterparts in many ways that puts them at a disadvantage in an adult world; add in race in addition to age, and this is even more compounded and alienating. In a sense, youth have little power because they live and function in a world that is primarily run by adults and are represented in positions of power by adults; this is particularly troubling as many youth work in jobs and pay taxes, but cannot vote (Michaelis, 1998). Also, youths are defined and ruled by the norms from those in power—adults—with whom they share few similarities and realities, thus contributing to youths' involvement in the justice system, as those in power make decisions that greatly affect the lives of youth, yet may base these decisions on inaccurate presumptions (Michaelis, 2001). In considering child welfare youth specifically, this divide is even more pronounced, as the majority of the general population does not have this unique system involvement.

These empirical findings on racial difference lend support to the idea of the bifurcation of youth from a historical perspective (Edelman, 2002), in which differences in system experiences emerged between race, with the focus on helping white youth while employing mechanisms of social control for African-American youth, thereby ignoring their needs. Scholars have asserted

the role of macro influences, such as the capitalistic market and commodification of youth, that drive the idea that “problems” in middle-class white youth are remedied by services in the private mental health system, whereas those from a lower socioeconomic and racial minorities are funneled to the justice systems (Finn, 2001; Shook, 2005). This continues as those in dominant (white) society allow for social control of those not in the majority (Michaelis, 2001).

When adding race to these contexts, it is evident that this alienation is even more pronounced, even in the general population. Nunn (2002) utilizes the term “the other” to frame the assertion that African-American and white youth do not have the same experiences in adolescence due to dominant (white) society viewing them in different manners. Since African-American youth are not part of the prevailing perspective, they are easier to disassociate from and thus receive treatment that would not be acceptable if applied to white youth. Drawing on one of the major tenets of critical race theory (CRT), interests of people of color are only acknowledged when they converge with the interests of the white population (Bell, 1995; Delgado & Stefancic, 2001). To present an illustration of how care and social control would be different for overrepresentation of children and youth of color in the child welfare and juvenile justice systems, Nunn (2002) raises the point that if white youth were the principal population, the juvenile justice system, “would focus on rehabilitation and reeducation rather than its present emphasis on repression, isolation, and control” (Nunn, 2002, p. 682). However, because the overrepresentation in the child welfare and justice systems are people of color, and there is not an overrepresentation of the white youth in these systems, little attention is given to this issue.

Arguing that development of adolescence in the United States is influenced by broad forces from the market, and a decreasing overall financial investment in children and youth from the public resulted in this “bifurcated” pathway of adolescence (Edelman, 2002). Thus, youth is a

luxury that is dependent on the resources with which a family is able to provide for it. (Finn, 2001). For youth from families without the financial resources—historically people of color—this is an unattainable stage of life in which they are instead left to rely on poorly-funded public programs, that increasingly includes the child welfare and justice system (Edelman, 2002) and contributes to racial inequities.

When child welfare and justice system youth are perceived as “the other” (Nunn, 2002) (in this example: young, African-American, with child welfare system experiences, and typically of low socioeconomic status) in comparison to the default, dominant status in America by those in power, which tends to be older, white, no child welfare system experiences, and middle class or from higher socioeconomic status, then these ideas perpetuate and inform those in power, who do not relate to “the other,” to inform policies without developing a broader understanding of the impact of this occurrence. Michaelis (2001) support the assertion that those in power in the legal system assume that they make just-minded decisions about the treatment of others because the foundation of those decisions are in their own (fair) life experiences. Meanwhile, those that are *different* from the person in power are at an extreme disadvantage due to the authority figure not being able to understand the lives of people not like him or her. By doing this, the status quo of society is maintained, and those in power stay in power, and systems appear to be helpful to youth, yet are designed to maintain legitimizing themselves. Further, scholars point out the function of systems like juvenile justice to create the need for clients and then fill them with the same group of individuals for easy monitoring (Federle, 1999) and social control. As professionals working with this population of young people, and part of those in considered power to influence practice and policy, we need to be aware of our own place in this, and also to educate others of this broader context and how such knowledge can influence our perspectives of

issues. The findings of my study further show the overrepresentation of African-American young people in both the child welfare and justice systems, as well as the variations within their experiences. One of the implications of this is that these results need to be interpreted carefully within this broader context, and also need our attention as professionals working with these young people.

The two groups with the stark overrepresentation of African-Americans, the short term high justice system group and those with chronic justice system involvement, especially need to be understood within this broader context of racial bias that exists in the justice system.

Institutional racism and disproportionate minority contact (DMC), in particular, are two examples of this context. DMC manifests itself in a number of ways that put African-American youth and young adults at a disadvantage in the justice systems, including: subjective enforcement of laws by legal authorities, different opportunities for receiving potentially beneficial mental health services, and policies that have a worse effect on young people of color (The Sentencing Project, 2010). Without an acknowledgement of the role that these far-reaching forces have on the outcomes of these young people, misattribution could be made to blame so-called “innate” characteristics, but completely ignore the systems themselves that are contributing. This context, therefore, is extremely important.

The overrepresentation in these systems is of particular concern for social work. Unfortunately, a number of factors play a role in the continued inequities within the child welfare and justice systems, and especially the justice system. One key factor is that there is the declining role of social work in settings that directly address the justice system population. Social work no longer has a prominent place in the justice systems for a variety of reasons: loss of funds during the Reagan years of community-based and treatment programs; as institutions became more

focused on punishment and control, social work professionals did not want to be a part of this; schools of social work responded by cutting the number of classes that addressed this and not making justice system research as much a priority (Sarri & Shook, 2005). Social work needs to regain its role, as it is the profession that elucidates these issues and educates others on a person's influence from their surrounding environment. Perspectives and approaches that use "context stripping" do not provide the most accurate representation (Saleebey, 2006) regarding children and youth. With misinformation taken out of context, policies only continue to be punitive and a detriment to African-American individuals and communities.

On a broad level, in viewing the experiences and outcomes of child welfare youth, we need to be critical of the systems themselves. This study found that while the majority of young people do not become involved in the justice system, there is still a substantial, vulnerable portion that, to varying degrees, do. The way that we as professionals think of and frame these issues have important implications, and need to be done so in a way that benefits young people. These systems, as the state in power, are designed to be a guiding force (*parens patriae*), and for some children and youth even step in as the parent itself when it is ruled that parents are inadequate. However, the implications of the findings from this study raise questions of a critical nature in regard to the parenting job of the state. The young people in the sample, across the trajectory groups, showed high percentages of involvement in multiple systems. While this study cannot address the effectiveness of every service that a young person receives, it does, however, indicate that young people overall are receiving high percentages of drug and alcohol and mental health services, yet are also becoming or staying involved in the justice system. This occurs even after entry into the justice system and there is a spike in services when comparing measures prior to the justice system compared to involvement overall. Edelman (2002) is critical of justice

system involvement when there are apparent gaps in much-needed services on the front end that could have steered one away from such involvement in the first place. While undoubtedly many vulnerable youth who have been victims of maltreatment benefit from system involvement, a historical context informs us to question the benevolent interventions and to hold systems accountable. We need to be critical of the idea of the state as parent, and to closely examine the specific experiences of young people in them, particularly for out of home placement, which is a major disruptor in a young person's life. Especially given the high rates of turnover of caseworkers and other workers related to the child welfare system, it can be difficult for youths to form and maintain the prosocial relationships that Sampson and Laub (1993) indicate could be turning points away from justice system involvement. We as professionals need to ensure that we are not a part of perpetuating these inequalities, but rather, actually helping young people and not contributing to their adverse outcomes. It is certainly not an easy task, as social workers are in the difficult position of being "located between individuals and 'the system'" (Abramovitz, 1998, p. 517-518). In the present day, child welfare systems often contract out their services to private providers, and beds in congregate care settings need to be filled in order to maintain themselves, and a healthy professional skepticism of the purpose of system involvement is positive. This is especially important given that child welfare youth are particularly vulnerable as they often do not have the parental or other guardian support to advocate for alternatives. Thus, it is up to us as part of the professional community to critically analyze their treatment by the systems themselves. Because we have this ability to analyze issues across the micro, mezzo, and macro systems as well as recognize that an individual is a part of existing within a wider environment, and because we are the profession aimed at broad social change, social work professionals can be the leaders in this.

Our practices are informed by our view of the issue, which is informed by our social construction of it based on history and structure. The past and the macro, structural changes in society impact today. We can frame who are thought of as the “trouble-makers” or sources of social problems throughout history, and need to be critical of the interpretation of these findings and not further perpetuate false ideas about young people. Whereas in the past the ‘dangerous classes’ were framed to as white youth in the ever-expanding cities, today white youth are no longer seen as the primary component of the “youth problem,” as it is now black youth are thought of as the troublemakers whose behaviors are attributed to innate qualities, and they are funneled to the justice systems as a form of social control. Meanwhile, white youth’s behavior is seen within a context of circumstances, out of their control, such as acknowledgement that they come from a ‘bad home’ and that is what got them into trouble in the first place. The findings of this study show that most young people with child welfare involvement do not also have substantial justice system involvement. Of those that do, broader contextual factors beyond measure here need to be considered to form accurate assessments of the issues.

6.3 NEED FOR THEORY EXPANSION

While existing conceptual frameworks for this study applied adequately to examining justice system involvement of young people with child welfare histories, further development and refinement of theoretical models are necessary as future research explores timing and additional variables in more detail. Theories exist that provide clarification for the relationship between child maltreatment, juvenile delinquency, and adult criminality, such as Widom’s (1989b) “cycle of violence” hypothesis, but do not provide clear explanation for systems involvement. This is especially important given that child maltreatment and child welfare services are not synonymous, as is the same with delinquency and criminality not capturing the

same concept as juvenile and criminal justice system involvement. Systems of care models (Garland et al., 2001) recognize youths' involvement in multiple systems, but are cross-sectional in design and do not address in-and-out involvement longitudinally. Maschi and colleagues' (2008) social-justice model is a foundation, but does not describe in detail how variables interact with each other, or how the order of system involvement matters or occurs. Considering the multiple system involvement of young people, especially for drug and alcohol and mental health prior to compared to overall, solid theoretical frameworks are needed to guide thinking regarding heavy services use by young people in the child welfare system.

6.4 LIMITATIONS

The findings from this study need consideration within the larger context of various limitations. First, this study did not utilize a specific comparison group from the general population. Comparisons are made relative to the larger study's sample or previous studies in this area, but not from a specific control group in the general population, due largely to cost and time. Nevertheless, this study provides detail of justice system involvement, and inferences from other samples can be compared and contrasted. By not utilizing a specific comparison group, but rather drawing on existing research from the general population, more attention to detail is provided for the sample of young people with child welfare system placement experiences.

Second, the sample in this study used specific inclusion criteria that likely influenced the outcomes of this study to some degree, and ought to be taken into consideration. Because of the criterion of one year in out of home placement to provide for substantial involvement, this included numerous adoption cases as well. By employing a sample that would include less child welfare placement experiences outside of the home, or by removing adoption cases altogether, different developmental trajectories might emerge.

Given the relationships demonstrated in multiple service system involvement in this study's results, another limitation is the lack of variables related to timing of services. While measures of overall and prior systems use help establish a justification for further study, this study cannot conclusively determine the order of services given the variables and methods used. These data, however, are available as part of the larger study from which I derive variables for this dissertation, and future research could focus on timing as a critical aspect to not only receiving specific services, but overall multiple system involvement as well.

However, considering that this study adds to the paucity of research on justice system involvement trajectories of child welfare young people, these limitations are acknowledged within a context of what the study was able to accomplish.

6.5 STRENGTHS

6.5.1 The Role of Child Welfare Placements

Despite these limitations, this study offers information on filling the existing gaps in the current research, especially given the paucity of studies that focus exclusively on the justice system experiences of young people with substantial child welfare placements. First, this study adds to the literature on disentangling the complex role of the outcomes of child welfare placements. Research shows that when compared to young people who received child welfare services in-home, those with out of home placement had worse outcomes in the justice system (Ryan & Testa, 2005). In the section in this study on reviewing additional studies of the empirical research on placement, I discussed how mixed findings were found across studies as to the helpful or harmful nature of child welfare placements. Given this complex relationship, it is important to understand what factors affect certain groups more so than others. This study presents detail on the nature and extent of justice system involvement among trajectory groups

within the sample of young people with three specific types of child welfare placements. Through examining specific aspects of overall child welfare placement experiences, I aim to add to the research as it moves from general to more specific information on the role of placement in justice system outcomes. This study shows that placement type affected the justice system groups differently, as the chronic justice system group was the only one with a significant relationship to having ever been in congregate care. Additional analyses supported this finding, and found a potentially beneficial relationship on justice system involvement when young people spent time in foster homes. Connecting justice system group membership with placement experiences is important in recognizing that not all young people have the same child welfare experiences or justice system outcomes, and that by empirically addressing this, better information can be used to guide policy and practice decisions.

6.5.2 Limited Research on Experiences within Justice Systems

While a substantial portion of research addresses outcomes at the front-end of justice system involvement, such as arrests (Ryan, 2006), or over short periods of time, the strength of this study is that justice system placement and time spent in the county jail were the outcome measures over a ten year time period. I used trajectory analysis specifically to highlight the different trajectory group experiences of the child welfare sample. While studies are lacking on the specific experiences of young people within the juvenile justice system, they are further lacking for child welfare youth. By focusing the sample on those with child welfare placement experiences, their justice system involvement over time can add new information to existing research on mostly general population samples. Further, this study's strength in expanding knowledge on justice system experiences also involves the use of both juvenile and criminal justice system outcome measures together, as many studies center on juvenile or adult outcomes,

but not both together. Through utilizing measures in both, a more holistic picture emerges of the relationship between the two, and recognizing which justice system trajectory groups have involvement in both, and which are more likely to limit their involvement to one or the other.

6.5.3 Not Longitudinal, Not Across Systems

Longitudinal research designs are necessary to identify patterns of experiences over time and to link experiences together into trajectory groups. I was able to address a longitudinal design in this study by using age as a time measure to identify similar groupings on age and probability of system involvement in the justice system and for child welfare placement types. By gaining information on systems involvement over time, one recognizes the true extent of involvement young people have in these systems. Through adding mental health and drug and alcohol system involvement variables as well, I was able to address some of the many systems that young people in child welfare are also commonly involved in. Previous research acknowledges multiple system involvement of young people in child welfare, but this study adds to existing studies by examining multiple systems (child welfare, juvenile justice, criminal justice, mental health, drug and alcohol) over a substantial age range. Due to the lack of research exclusive to the role of the mental health and drug and alcohol systems, the two variables constructed for each (both prior to the justice system as well as an overall involvement measure) add new information on experiences of young people with child welfare.

6.6 IMPLICATIONS FOR PRACTICE AND POLICY

The real world utility of this study is to begin to identify which young people are more likely to become involved in juvenile and criminal justice system involvement in order to effectively utilize often scarce resources. While overall the majority of young people do not have substantial involvement in the justice systems, we need more policies that address the smaller

groups of young people who do become involved and stay involved in the justice systems. One important implication of this study is the need to focus on who they are and, from that, discuss what can be done to best help them. To help prevent juvenile and criminal justice system involvement, attention needs to be given to the risk factors presented in this study. Across groups, males were more likely to be in a justice system group with substantial involvement than the no/low group. Differences in child welfare placement experiences were evident throughout the results, and the regression showed that placement type is related differently among the justice system groups. Congregate care child welfare placements cost more than foster homes, and while they can be effective for a small number of the child welfare population, they have yet to demonstrate efficacy that justifies their high costs (Barth, 2002). Thus, critically examining who specifically would likely benefit from such placements is worthwhile.

This research has important findings that can guide our interventions for these youth, particularly in the areas of screening and assessment. Because screenings and assessments typically occur during the initial stages of entry into systems, they have the potential to be a “turning point” of sorts for a youth entering out of home placement in either the child welfare or justice systems. By addressing a young person’s needs at the beginning of their system involvement, such interactions could also be preventative of future involvement and help ensure that the time that a young person does spend in systems is beneficial to them. Screenings and assessments have important distinctions between the two. Instruments used for screening youth in the juvenile justice system consist of short questionnaires that everyone undergoes once received into systems, and have particular utility for informing placement decisions and determining a youth’s need for further intervention or follow-up (Administrative Office of the

Courts, 2011). Assessments contain more breadth and depth, covering a wide range of areas of a young person's life (Administrative Office of the Courts, 2011).

Thus, this study could inform development of instruments for both screening and assessment, as significant relationships were found on not only demographic variables but also aspects of child welfare placement experiences and involvement in other systems as well. For example, regression findings showed that length in out of home child welfare placement was not significant across groups when compared to the no/low justice system group, except for the late adolescence into adulthood group, which had a slight buffering effect. The late adolescence into adulthood group began their justice system involvement around ages 17 and 18, which are when young people in child welfare are typically preparing for aging out of the system. By being aware of time in placement as potentially helpful for this group, and purposefully addressing it on the front end before further justice system involvement, these findings could be useful in establishing further research on the relationships of these variables and in forming tools for the practitioner. The screening instrument would be a shorter, quantitative, and easy to score based on the findings of this and future studies, while the assessment would include qualitative components that recognize the unique experiences of child welfare children and youth, as well as African-American and other minority youth.

Tools such as these are important as they act as a way to ensure that the systems meant to serve youth are responsible for their actions, enhance objectivity on the part of professionals, assist in prioritizing important information about a young person, provide more awareness of the situation of young people in child welfare (The University of California, Davis, Extension The Center for Human Services, 2008), and act as a foundation for communications about child welfare placement and risk for justice system involvement.

These interventions are particularly key because we know that the way that young people perceive the world around them influences their behaviors. Recent research on the concept of legal socialization suggests that perceptions of the law and legal system, which begin to form during adolescence (Fagan & Tyler, 2005), are affected by perceptions of authority figures within the system, including school officials and the police. Further, legal socialization is related to delinquent behavior (Fagan & Tyler, 2005). It is likely, then, that youths' perceptions of who they come in contact within the child welfare system also relates to their behavior. Next, I present two specific tools—one quantitative, one qualitative—based on the findings of this study that future work could potentially expand on and implement.

6.6.1 Quantitative Screening Instrument Implications

While it is beyond the reach of this section to fully develop and test an effective quantitative screening instrument for child welfare youth's potential involvement in the justice systems, nevertheless the findings of this study can be utilized as a foundation for future research and work on a potential screening tool. Results showed that there are different trajectory groups on justice system involvement within the child welfare sample. While it is crucial to recognize that trajectory groups are not deterministic (Arrandale, Koehoorn, MacNab, and Kennedy, 2006), and that findings need to be understood within a broader context, especially with race, acknowledging the different groups and their varying characteristics help form a foundation to develop a quantitative screening tool. It could be an efficient way for professionals to identify those most at risk for justice system involvement. In addition to demographics, this study demonstrated that child welfare experiences and other system involvement matters. Having a tool that would remind professionals to be aware that child welfare placement types affect young people differently, such as congregate care settings mattering more for those with chronic justice

system involvement, and to gain awareness of the multiple services a young person already likely receives, could help inform potential follow-up interventions and treatment planning. This study provides a foundation for further work and development, particularly for timing of variables and a basis for additional placement variables that could be used for this purpose.

6.6.2 Qualitative Assessment Implications

In addition to a quick quantitative screening instrument, the findings also indicate the potential benefits of designing and implementing a qualitative assessment. This would be more involved than the quantitative screening tool, and would contain more in-depth, open-ended questions.

Child welfare system experiences are not typically seen in biopsychsocial assessments upon entering child welfare or juvenile justice system placements. However, tools can be developed and informed by this research to better address the needs of young people, to acknowledge their unique experiences, and to begin to capture the hard-to-operationalize contextual factors that occur in the real world. Drawing from a major tenet of critical race theory, that oppressive experiences allow people of color to communicate these experiences that whites are otherwise unlikely to understand (Bell, 1995; Delgado & Stefancic, 2001) can be particularly useful. With the overrepresentation of African-American young people in the child welfare and justice systems, it is important that these experiences are recognized during assessments and then included in formulating treatment plans. These experiences are also important as these systems continually have young people with substantial out of home placements and experiences in these systems. While younger youth might need more age-appropriate interventions, most adolescents have the language and communication skills to answer some basic questions about their

placement experiences and their feelings toward them, thus such a qualitative assessment has great potential.

Informed by the findings of this study, one way in which this could occur is by having a special section for child welfare youth upon intake that contains questions about their child welfare experiences and placements, as well as involvement in multiple systems. Topic questions could range from open-ended questions about satisfaction in previous placements, as well as negative experiences in placement or with specific congregate care workers. Strengths should not be overlooked as well, especially considering Sampson and Laub's (1993) assertions that prosocial relationships and turning points can make a difference in a young person's experiences, and need to be included in assessments as well. Being sensitive and informed about past experiences, and genuine interest in considering them in a young person's treatment care plan, has the potential not only for building a relationship with a young person, but also for youth's voices to be heard regarding their care, legitimizing their personal perspectives of system experiences.

A quantitative screening instrument and a qualitative assessment measure are two specific aspects of interventions that could be informed based on the results of this study, although much future work would need to be undertaken before any final tools were implemented. By taking the time and showing the effort to young people that their experiences in systems matter, it is hopeful that such tools could help young people in the child welfare and justice system. Therefore, this can help those most at risk for justice system involvement, which in this study, involved African-American youth, given their overrepresentation in the sample.

6.7 FUTURE RESEARCH DIRECTIONS

Given that this study is one of only few to apply trajectory analysis to child welfare youth on justice system involvement, this area is rich with directions for future research. This study was able to establish that young people within the child welfare system who have substantial out of home placement experiences have heterogeneity in their justice system experiences, and raises additional questions that merit future research: What factors differentiate these groups from being on similar pathways? If the early age justice system group and the chronic justice system group seem to start out the same with their experiences, what is it that happens to them that results in one group trailing off with justice system involvement while the other continues? Could changes within child welfare system experiences be a “turning point” (Sampson & Laub, 1993)? For the group with short term but high involvement in the justice system, what is it specifically about the peak when their involvement occurs? Is it related to aging out of the child welfare system at age 18? While these comparisons in this study are a start, future research is needed to provide detail as well.

The age range used in this study was able to include both juvenile and criminal justice measures, but future research can expand on this by examining trajectories further into adulthood. For example, it would be especially interesting to see whether the late adolescence into adult justice system continues their justice system involvement past the age range in this study. Considering they got started later in the justice system and stayed involved, do they end after age 22 or are they, despite the late start, more related to Moffitt’s (1993) life-course persistent group than those that are adolescent-limited? Additionally, we know that, according to Sampson and Laub that the crime should drop off soon after the age range in this study, but it would be interesting to see if this happened for child welfare youth as well.

The outcome measure for the adult criminal justice system is just one aspect of justice system involvement. Therefore, it would be interesting to examine additional data on other measures, such as probation, arrests, or state prison incarceration. If we know that young people from child welfare are going to jail, what is that the depth of their involvement? Are there differences for the outcome measures among child welfare youth? Also, future research could address the timing of the variables better; while this study laid the foundation by using measures prior to justice system involvement and overall measures for drug and alcohol as well as the mental health system, future research could look more in depth at the timing of placements prior to justice system involvement rather than correlations. Finally, future research could use a different child welfare sample. This study included a substantial amount of adoption cases due to the inclusion criteria of at least one year in out of home placement; different samples could be constructed to see how results are similar or different across various child welfare samples.

6.8 CONCLUSION

The main goal of this study was to provide an empirical basis with which to help inform policy, practice, and research by examining the nature and extent of justice system involvement in detail of young people with experiences in out of home child welfare placements. While most young people in the sample did not have juvenile or criminal justice system involvement, results show that a substantial number do, and have different experiences based on trajectory group membership. The variations are important, particularly child welfare experiences and involvement in multiple systems. Results suggest that foster homes have a relationship with less justice system involvement, and congregate care settings more, when examining juvenile detention and spending time in the county jail. Percentages were high for involvement in the drug and alcohol and mental health systems, especially after one's justice system involvement.

Additionally, by understanding the findings within a wider context, particularly concerning race, we can begin to draw attention to the stark overrepresentation of African-Americans in the child welfare and justice systems, especially with this study's findings of the variations in race within the justice system trajectory groups. Additionally, these findings have implications for targeting programs for young people who would most benefit from them, and implications for designing quantitative and qualitative screening and assessment tools to potentially provide positive intervention away from pathways of justice system involvement.

BIBLIOGRAPHY

- Aarons, G. A., Hazen, A. L., Leslie, L. K., Hough, R. L., Monn, A. R., Connelly, C. D., Landsverk, J. A., & Brown, S. A. (2008). Substance involvement among youths in child welfare: The role of common and unique risk factors. *American Journal of Orthopsychiatry*, 78, 340-349.
- Abramovitz, M. (1998). Social work and social reform: An arena of struggle. *Social Work*, 43, 512-526.
- Adoption and Foster Care Analysis and Reporting System (AFCARS). (2003). AFCARS, Report #8. Washington, DC: U.S. Department of Health and Human Services, Administration for Children, Youth, and Families.
- Aries, P. (1962). *Centuries of childhood*. New York: Vintage Books.
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55, 469-480.
- Arrandale, V., Koehoorn, M., MacNab, Y., & Kennedy, S. M. (2006). How to use SAS® Proc Glimmix in respiratory epidemiology. Retrieved from Centre for Health and Environmental Research (CHER) at The University of British Columbia: <https://circle.ubc.ca/handle/2429/834>.
- Ayers, C. D., Williams, J. H., Hawkins, J. D., Peterson, P. L., Catalano, R. F., & Abbott, R. D. (1999). Assessing correlates of onset, escalation, deescalation, and desistance of delinquent behavior. *Journal of Quantitative Criminology*, 15, 277-306.
- Barth, R.P. (2002). Institutions vs. Foster Homes: The Empirical Base for the Second Century of Debate. Chapel Hill, NC: University of North Carolina, School of Social Work, Jordan Institute for Families.
- Bell, D. A. (1995). Who's afraid of critical race theory?. *University of Illinois Law Review*, 893-910.
- Bender, K. (2010). Why do some maltreated youth become juvenile offenders? A call for further investigation and adaptation of youth services. *Children and Youth Services Review*, 32, 466-473.
- Bergman, L. R. (1998). A pattern-oriented approach to studying individual development: Snapshots and processes. In Cairns, R. B., Bergman, L. R., & Kagan, J. (Eds.),

- Methods and models for studying the individual* (pp. 83-121). Thousand Oaks, CA: Sage Publications.
- Berzin, S. C. (2008). Difficulties in the transition to adulthood: Using propensity scoring to understand what makes foster youth vulnerable. *Social Service Review*, 82, 171-196.
- Blumstein, A., Cohen, J., Roth, J. A., & Visher, C. A. (Eds.) (1986). *Criminal Careers and "Career Criminals": Volume 1*. Washington, DC: National Academy Press.
- Boylan, S. (2012, March). Maximizing dual status services: Denver Collaborative Partnership HB 1451. PowerPoint presentation at Addressing the Needs of Multi-System Youth: Strengthening the Connection Between Child Welfare and Juvenile Justice, Washington, DC.
- Bright, C. L. (2008). *Young adult outcomes of juvenile court involved girls*. (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3316595)
- Brezina, T. (1998). Adolescent maltreatment and delinquency: The question of intervening processes. *Journal of Research in Crime and Delinquency*, 35, 71-98.
- Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist*, 32, 513-530.
- Burns, B. J., Phillips, S. D., Wagner, H. R., Barth, R. P., Kolko, D. J., Campbell, Y., & Landsverk, J. (2004). Mental health needs and access to mental health services by youths involved in child welfare: A national survey. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43, 960-970.
- Byrne, D. (2012, March). Judicial perspective on crossover cases. PowerPoint presentation at Addressing the Needs of Multi-System Youth: Strengthening the Connection Between Child Welfare and Juvenile Justice, Washington, DC.
- Catalano, R. F., & Hawkins, J. D. (1996). The social development model: A theory of antisocial behavior. In Hawkins, J. D. (Ed.), *Delinquency and crime: Current theories*. Cambridge University Press, New York.
- Chamberlain, P. (1998). *Blueprints for violence prevention. Book 8: Multidimensional treatment foster care*. Boulder, CO: Center for the Study and Prevention of Violence.
- Child Abuse Prevention and Treatment Act. 42 USC 5116.
- Chung, I.-J., Hawkins, J. D., Gilchrist, L. D., Hill, K. G., & Nagin, D. S. (2002). Identifying and predicting offending trajectories among poor children. *Social Service Review*, 76, 663-685.

- Chung, I.-J., Hill, K. G., Hawkins, J. D., Gilchrist, L. D., & Nagin, D. S. (2002). Childhood predictors of offense trajectories. *Journal of Research in Crime and Delinquency*, 39, 60-90.
- Collins, M. E. (2001). Transition to adulthood for vulnerable youths: A review of research and implications for policy. *Social Service Review*, 75, 271-291.
- Colman, R., Kim, D. H., Mitchell-Herzfeld, S., & Shady, T. A. (2008). Long-term consequences of delinquency: Child maltreatment and crime in early adulthood. United States Department of Justice.
- Conger, D., & Ross, T. (2006). Project Confirm: An outcome evaluation of a program for children in the child welfare and juvenile justice systems. *Youth Violence and Juvenile Justice*, 4, 97-115.
- Courtney, M. E., Dworsky, A., Lee, J. S., & Raap, M. (2010). Midwest evaluation of the adult functioning of former foster youth: Outcomes at ages 23 and 24. Chapin Hall at the University of Chicago. Retrieved online: http://www.chapinhall.org/sites/default/files/Midwest_Study_Age_23_24.pdf
- Cusick, G. R., Courtney, M. E., Havlicek, J., & Hess, N. (2011). Crime during the transition to adulthood: How youth fare as they leave out-of-home care. Chicago: Chapin Hall at the University of Chicago.
- DeGue, S., & Widom, C. S. (2009). Does out-of-home placement mediate the relationship between child maltreatment and adult criminality?. *Child Maltreatment*, 14, 344-355.
- Delgado, R., & Stefancic, J. (2001). *Critical race theory: An introduction*. New York: New York University Press.
- Dembo, R. (1996). Problems among youths entering the juvenile justice system, their service needs and innovative approaches to address them. *Substance Use & Misuse*, 31, 81-94.
- Doyle, J. J., Jr. (2007). Child protection and child outcomes: Measuring the effects of foster care. *American Economic Review*, 97, 1583-1610.
- Drake, B., & Jonson-Reid, M. (1999). Some thoughts on the increasing use of administrative data in child maltreatment research. *Child Maltreatment*, 4, 308-315.
- Edelman, P. (2002). "American Government and Politics," in M.K. Rosenheim, F.E. Zimring, D.S. Tanenhaus and B. Dohrn (Eds.), *A century of juvenile justice*, pp. 310-38. Chicago: University of Chicago Press.
- Elder, G. H. (1986). Military times and turning points in men's lives. *Developmental Psychology*, 22, 233-245.

- Emerson, R. M. (2009). *Judging delinquents: Context and process in juvenile court*. (Reprint Edition). Piscataway, NJ: Aldine Transaction.
- English, D. J., Widom, C. S., & Brandford, C. (2002). Childhood victimization and delinquency, adult criminality, and violent criminal behavior: A replication and extension, final report. Washington, DC: United States Department of Justice.
- Epstein, M. H., & Quinn, K. P. (1996). A case study approach to analyzing the relationship between children and services in a system of care. *Journal of Emotional and Behavioral Disorders*, 4, 21–29.
- Farmer, E. M. Z., Burns, B., Chapman, M. V., Phillips, S. D., Angold, A., & Costello, E. J. (2001). Use of mental health services by youth in contact with social services. *Social Service Review*, 75, 605-624.
- Farmer, E. M. Z., Southerland, D., Mustillo, S. A., & Burns, B. J. (2008). Returning home in systems of care: Rates, predictors, and stability. *Journal of Emotional and Behavioral Disorders*, 17, 133-146.
- Farrington, D. P. (1986). Age and crime. *Crime and Justice*, 7, 189-250.
- Finn, J. (2001). Text and turbulence: Representing adolescence as pathology in the human services. *Childhood*, 8, 167-191.
- Garland, A. L., Landsverk, J. L., Hough, R. L., & Ellis-MacLeod, E. (1996). Type of maltreatment as a predictor of mental health service use for children in foster care. *Child Abuse & Neglect*, 20, 675-688.
- Garland, A. L., Hough, R. L., Landsverk, J. A., & Brown, S. A. (2001). Multi-sector complexity of systems of care for youth with mental health needs. *Children's services: Social policy, research, and practice*, 43, 123-140.
- Glueck, S., & Glueck, E. T. (1934) *One thousand juvenile delinquents: Their treatment by Court and clinic*. Cambridge, MA: Harvard University Press.
- Grobe, D., Weber, R. B., & Davis, E. E. (2003). Guidebook for implementing a study on the dynamics of child care subsidy use. Retrieved from <http://health.oregonstate.edu/sites/default/files/sbhs/pdf/2003-Duration-Study-Guidebook.pdf>.
- Grogan-Kaylor, A. & Otis, M. D. (2003). The effect of childhood maltreatment on adult criminality: A Tobit regression analysis. *Child Maltreatment*, 8, 129-137.
- Grossberg, M. (2002). "Changing Conceptions of Child Welfare in the United States, 1820–1935," in M.K. Rosenheim, F.E. Zimring, D.S. Tanenhaus and B. Dohrn (Eds.) *A Century of Juvenile Justice*, pp. 3–41. Chicago: University of Chicago Press.

- Guevara, L., Herz, D., & Spohn, C. (2008). Race, gender, and legal counsel: Differential outcomes in two juvenile courts. *Youth Violence and Juvenile Justice*, 6, 83-104.
- Halemba, G., & Siegel, G. (2011). Doorways to delinquency: Multi-system involvement of delinquent youth in King County (Seattle, WA). National Center for Juvenile Justice. Retrieved from http://www.ncjj.org/pdf/MFC/Doorways_to_Delinquency_2011.pdf.
- Hall, G. S. (1904). *Adolescence: Its psychology and its relations to physiology, anthropology, sociology, sex, crime, religion, and education*. New York: D. Appleman and Company.
- Harvey, D. (1989). *The condition of postmodernity: An enquiry into the origins of cultural change*. Oxford: Cambridge University Press.
- Havlicek, J. (2010). Patterns of movement in foster care: An optimal matching analysis. *Social Service Review*, 84, 403-435.
- Hazen, A. L., Hough, R. L., Landsverk J. A., & Wood, P. A. (2004). Use of mental health services by youths in public sectors of care. *Mental Health Services Research*, 6, 213–226.
- 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, 305-321.
- Hill, R. B. (2006). Synthesis of research on disproportionality in child welfare: An update. Casey-CSSP Alliance for Racial Equality in the Child Welfare System.
- Huang, D. (2010). Center for Advancing Longitudinal Drug Abuse Research: Frequently Asked Questions. Available online: <http://www.caldar.org/html/faq.html>
- Janku, A. D., & Yan, J. (2009). Exploring patterns of court-ordered mental health services for juvenile offenders: Is there evidence of systemic bias? *Criminal Justice and Behavior*, 36, 402-419.
- Jones, B. L. (2010). Traj: Group-based modeling of longitudinal data. Available online: <http://www.andrew.cmu.edu/user/bjones/>
- Jonson-Reid, M. (2002). Exploring the relationship between child welfare intervention and juvenile corrections involvement. *American Journal of Orthopsychiatry*, 72, 559-576.
- Jonson-Reid, M. (2004). Child welfare services and delinquency: The need to know more. *Child Welfare*, 83, 157-173.
- Jonson-Reid, M. (2011). Disentangling system contact and services: A key pathway to evidence-based children's policy. *Children and Youth Services Review*, 33, 598-634.

- Jonson-Reid, M., & Barth, R. P. (2000a). From maltreatment report to juvenile incarceration: The role of child welfare services. *Child Abuse & Neglect*, 24, 505-520.
- Jonson-Reid, M., & Barth, R. P. (2000b). From placement to prison: The path to adolescent incarceration from child welfare supervised foster or group care. *Children and Youth Services Review*, 22, 493-516.
- Jonson-Reid, M., & Barth, R. P. (2003). Probation foster care as an outcome for children exiting child welfare foster care. *Social Work*, 48, 348-361.
- Jonson-Reid, M., Kohl, P. L., & Drake, B. (2012). Child and adult outcomes of chronic maltreatment. *Pediatrics*, 129, 839-845.
- Juvenile Justice and Delinquency Prevention Act. Public Law 107-273.
- Keller, T. E., Cusick, G. R., & Courtney, M. E. (2007). Approaching the transition to adulthood: Distinctive profiles of adolescents aging out of the child welfare system. *Social Service Review*, 81, 453-484.
- Kelley, B. T., Thornberry, T. P., & Smith, C. A. (1997). *In the wake of childhood maltreatment*. Washington, DC: National Institute of Justice. Retrieved from <http://www.ncjrs.gov/pdffiles1/165257.pdf>
- Kett, J. F. (1977). *Rites of passage: Adolescence in America, 1790 to the present*. New York: Basic Books.
- Kim, J. (2008). *Developmental trajectories of externalizing behavior problems among maltreated children*. (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3322598)
- King, W. (1995). *Stolen childhood: Slave youth in nineteenth-century America*. Bloomington, IN: Indiana University Press.
- Laitinen-Krispijn, S., Van der Ende, J., Wierdsma, A. I., & Verhulst, F. C. (1999). Predicting adolescent mental health service use in a prospective record-linkage study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 38, 1073-1080.
- Leitenberg, H., Burchard, J. D., Healy, D., & Fuller, E. J. (1981). Nondelinquent children in state custody: Does type of placement matter? *American Journal of Community Psychology*, 9, 347-360.
- Lemmon, J. H. (2006). The effects of maltreatment recurrence and child welfare services on dimensions of delinquency. *Criminal Justice Review*, 31, 5-32.
- Loeber, R., & Hay, D. F. (1994). Developmental Approaches to Aggression and Conduct Problems. In M. L. Rutter, & D. H. Hay (Eds.), *Development through life: A handbook for clinicians* (pp. 488-515). Oxford: Blackwell.

- Lundman, R. J. (1993). *Prevention and control of juvenile delinquency*. New York: Oxford University Press.
- Magnusson, D. (1998). The logic and implications of a person-oriented approach. In Cairns, R. B., Bergman, L. R., & Kagan, J. (Eds.), *Methods and models for studying the individual* (pp. 33-62). Thousand Oaks, CA: Sage Publications.
- Maschi, T., Hatcher, S. S., Schwalbe, C. S., & Rosato, N. S. (2008). Mapping the social service pathways of youth to and through the juvenile justice system: A comprehensive review. *Children and Youth Services Review*, 30, 1376-1385.
- Maxfield, M. G. & Widom, C. S. (1996). The cycle of violence: Revisited 6 years later. *Archives of Pediatrics and Adolescent Medicine*, 150, 390-395.
- McMahon, J., & Clay-Warner, J. (2002). Child abuse and future criminality: The role of social service placement, family disorganization, and gender. *Journal of Interpersonal Violence*, 17, 1009-1019.
- Mersky, J. P., & Topitzes, J. (2010). Comparing early adult outcomes of maltreated and non-maltreated children: A prospective longitudinal investigation. *Children and Youth Services Review*, 32, 1086-1096.
- Michaelis, K. L., (2001). School violence: The call for a critical theory of juvenile justice. *Brigham Young University Education & Law Journal*, 299-326.
- Mitchell, D. A. M. (2009). The child protection juvenile court process from a communication perspective: A glimpse behind the veil of objectivity reveals that race matters. (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3387560)
- Moffitt, T. E. (1993). Adolescent-limited and life-course-persistent adolescent behavior: A developmental taxonomy. *Psychological Review*, 100, 674-701.
- Muthén, B. (2004). Latent variable analysis: Growth mixture modeling and related techniques for longitudinal data. In D. Kaplan (ed.), *Handbook of quantitative methodology for the social sciences* (pp. 345-368). Newbury Park, CA: Sage Publications.
- Nagin, D. S. (n. d.). Modeling Developmental Trajectories: A Group-Based Approach. PowerPoint presentation, available online: christophe.genolini.free.fr/recherche/atelierATelecharger/nagin1.ppt
- Nagin, D. S. (2005). *Group-based Modeling of Development*. Cambridge, MA: Harvard University Press.
- Nagin, D.S., & Odgers, C. L. (2010). Group-based trajectory modeling in clinical research.

- Annual Review of Clinical Psychology*, 6, 109-138.
- Nagin, D.S., & Tremblay, R. E. (2005). Developmental trajectory groups: Fact or a useful statistical fiction?." *Criminology*, 43, 873-904.
- National Council on Crime and Delinquency. (2007). *And justice for some: Differential treatment of youth of color in the justice system*. Retrieved online: http://www.nccd-crc.org/nccd/pubs/2007jan_justice_for_some.pdf
- Nunn, K. B. (2002). The child as other: Race and differential treatment in the juvenile justice system. *DePaul Law Review*, 51, 679-714.
- O'Neill Murray, K., & Gesiriech, S. (2004). A brief legislative history of the child welfare system. Pew Commission on Children in Foster Care. Retrieved from <http://pewfostercare.org/research/docs/Legislative.pdf>
- Patterson, G., R., & Yoerger, K. (1993). Developmental Models for Delinquent Behavior. in *Mental disorder and crime*, in S. Hodgins (Ed.), (pp. 140-172). Newbury Park, CA: Sage.
- Pilotti, F. J. (1999). The historical development of the child welfare system in Latin America: An overview. *Childhood*, 6, 408-422.
- Piquero, A. R. (2008). Taking Stock of Developmental Trajectories of Criminal Activity Over the Life Course. In A. M. Liberman (Ed.) *The long view of crime: A synthesis of longitudinal research* (pp. 23-78). New York: Springer.
- Piquero, A. R., & Buka, S. L. (2002). Linking juvenile and adult patterns of criminal activity in the Providence cohort of the National Collaborative Perinatal Project. *Journal of Criminal Justice*, 30, 259-272.
- Piquero, A. R., Fagan, J., Mulvey, E. P., Steinberg, L., & Odgers, C. (2006). Developmental trajectories of legal socialization among serious adolescent offenders. *The Journal of Criminal Law and Criminology*, 96, 267-298.
- Piquero, A. R., & Weisburd, D. (Eds.) (2010). *Handbook of quantitative criminology*. New York: Springer.
- Platt, A. M. (1977). *The child savers: The invention of delinquency*. Chicago: University of Chicago Press.
- 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, 318-324.
- 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. *The Journal of Behavioral Health Services and Research*, 31, 242-254.
- Rivera, B., & Widom, C. S. (1990). Childhood victimization and violent offending. *Violence and Victims*, 5, 19-35.
- Rogers, K., Pumariega, A., Atkins, D., & Cuffe, S. (2006). Conditions associated with identification of mentally ill juveniles in juvenile detention. *Community Mental Health Journal*, 47, 25-40.
- Runyan, D. K. & Gould, C. L. (1985). Foster care for child maltreatment: Impact on delinquent behavior. *Pediatrics* 75, 562-568.
- 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, 511-519.
- 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, 227-249.
- Ryan, J. P., Hernandez, P. M., & Herz, D. (2007). Developmental trajectories of offending for male adolescents leaving foster care. *Social Work Research*, 31, 83-93.
- Ryan, J. P., Herz, D., Hernandez, P. M., & Marshall, J. M. (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, 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.
- Saleebey, D. (Ed.). (2006). *The strengths perspective in social work practice* (4th ed.). Boston, MA: Allyn & Bacon.
- Sampson, R. J., & Laub, J. H. (1993). *Crime in the making: Pathways and turning points through life*. Cambridge, MA: Harvard University Press.
- Sarri, R. C., & Shook, J. J. (2005). The future for social work in juvenile and adult criminal justice. *Advances in Social Work*, 6, 210-220.
- Schlossman, S. (1977). *Love and the American delinquent: The theory and practice of "Progressive" juvenile justice 1825-1920*. Chicago: University of Chicago Press.

- Scrivner, K. W. (2002). Crossover kids: The dilemma of the abused delinquent. *Family Court Review*, 40, 135-149.
- Shook, J. J. (2005). Contesting childhood in the U.S. justice system: The transfer of juveniles to adult criminal court. *Childhood*, 12, 461-478.
- Shook, J., Goodkind, S., Pohlig, R. T., Schelbe, L., Herring, D., & Kim, K. H. (2011). Patterns of mental health, substance abuse, and justice system involvement among youth aging out of child welfare. *American Journal of Orthopsychiatry*, 81, 420-432.
- Smith, C. A., Ireland, T. O., & Thornberry, T. P. (2005). Adolescent maltreatment and its impact on young adult antisocial behavior. *Child Abuse & Neglect*, 29, 1099-1119.
- Snyder, H., & Sickmund, M. (2006). Juvenile Offenders and Victims: 2006 National Report. U.S. Department of Justice. Office of Justice Programs. Office of Juvenile Justice and Delinquency Prevention. Washington, D.C., July 2006. Available online: <http://ojjdp.ncjrs.org/ojstatbb/nr2006/index.html>.
- Stephens, S. (1995). *Children and the politics of culture*. Princeton, NJ: Princeton University Press.
- Stewart, A., Livingston, M., & Dennison, S. (2008). Transitions and turning points: Examining the links between child maltreatment and juvenile offending. *Child Abuse & Neglect*, 32, 51-66.
- Stouthamer-Loeber, M., Loeber, R., Homish, L., & Wei, E. (2001). Maltreatment of boys and the development of disruptive and delinquent behavior. *Development and Psychopathology*, 13, 941-955.
- Tanenhaus, D. S. (2004). *Juvenile justice in the making*. New York: Oxford University Press, Inc.
- The Sentencing Project. (2010). Disproportionate minority contact. Retrieved from: http://www.sentencingproject.org/doc/publications/jj_DMCfactsheet.pdf
- Thornberry, T. P., Ireland, T. O., & Smith, C. A. (2001). The importance of timing: The varying impact of childhood and adolescent maltreatment on multiple problem outcomes. *Development and Psychopathology*, 13, 957-979.
- Thornberry, T. P., Henry, K. L., Ireland, T. O., & Smith, C. A. (2010). The causal impact of childhood-limited maltreatment and adolescent maltreatment on early adult adjustment. *Journal of Adolescent Health*, 46, 359-365.
- Topitzes, J. (D.) W. (2006). The effects of child maltreatment on adult crime: An examination of a long-term developmental model. (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3234681)

- Trattner, W. (1998). *From poor law to welfare state: A history of social welfare in America* (6th ed.). New York, NY: The Free Press.
- U. S. Census Bureau. (2012). State and county QuickFacts: Allegheny County. Retrieved from: <http://quickfacts.census.gov/qfd/states/42/42003.html>
- Vaughn, M. G., Shook, J. J., & McMillen, J. C. (2008). Aging out of foster care and legal involvement: Toward a typology of risk. *Social Service Review*, 82, 419-446.
- Verrecchia, P. J., Fetzer, M. D., Lemmon, J. H., & Austin, T. L. (2011). Policy implications of the effects of maltreatment type, age, recurrence, severity, and other ecological risks on persistent offending among disadvantaged boys. *Criminal Justice Policy Review*, 22, 187-218.
- Vinter, R. D., Newcomb, T. M., & Kish, R. (Eds). (1976). *Time Out: A National Study of Juvenile Correctional Programs*.
- Widom, C. S. (1989a). The cycle of violence. *Science*, 244, 160-166.
- Widom, C. S. (1989b). Does violence beget violence? A critical examination of the literature. *Psychological Bulletin*, 106, 3-28.
- Widom, C. S. (1991). The role of placement experiences in mediating the criminal consequences of early childhood victimization. *American Journal of Orthopsychiatry*, 61, 195-209.
- Widom, C. S. (2000). Childhood victimization: Early adversity, later psychopathology. *National Institute of Justice Journal*, 2-9.
- Wiebush, R., Freitag, R., & Baird, C. (2001). Preventing delinquency through improved child protection services. Washington, DC: Office of Juvenile Justice and Delinquency Prevention.
- Wiig, J. K. (2012, March). Systems Integration Initiative. PowerPoint presentation at Addressing the Needs of Multi-System Youth: Strengthening the Connection Between Child Welfare and Juvenile Justice, Washington, DC.
- Woodhouse, B. B. (2007). Race, culture, class, and the *myth* of crisis: An ecogenerist perspective on child welfare. *St. John's Law Review*, 81, 519-532.
- Wulczyn, F., & Lery, B. (2007). *Racial disparity in foster care admissions*. Chicago: Chapin Hall Center for Children at the University of Chicago.
- Young, N. K., Boles, S. M., & Otero, C. (2007). Parental substance use disorders and child maltreatment: Overlaps, gaps, and opportunities. *Child Maltreatment*, 12, 137-149.