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The Effects of Maternal Incarceration on Juvenile Delinquency

Sherry Trice
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Walden University

College of Social and Behavioral Sciences

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Sherri Trice

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Abstract

The Effects of Incarcerating Mothers on Their Children and Juvenile Delinquency

by

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MA, University of Cincinnati , 2008

BS, Michigan State University, 2005

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy and Administration

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Abstract

Increasing rates of maternal incarceration are potentially linked to development of delinquency in the children of these mothers. Current literature points to the intergenerational transmission of criminality that may result in future low socioeconomic status and unemployment for children of incarcerated mothers, yet little of this literature addresses the link between maternal incarceration and juvenile delinquency. Using attachment theory as the foundation, the purpose of this quantitative correlational study was to assess correlation between maternal incarceration and juvenile delinquency, as well as investigate the mediating role of child gender, race, current relationship with the primary caregiver, and disciplinary environment. The sample was obtained from the Fragile Families and Child Well-Being Study (FFWCS) conducted by faculty at Princeton and Columbia Universities. The pre-existing dataset includes data on 5,000 children born in the United States between 1998 and 2000 and their mothers. Mothers were interviewed and the sample size for this study was 5,000 adults. The quantitative analysis revealed no significant relationship between maternal incarceration and their children's delinquency. No mediating effects were found for child gender, race, current relationship with the primary caregiver, or disciplinary environment. In all, the study's findings complicate understandings of childhood delinquency, offering impetus for further studies, both to replicate these findings and to establish other causal factors. The identification of such factors may guide policy makers to look at existing policies to determine their need and effectiveness. Officials for corrections, welfare services, and family-support agencies may need to develop policies to allow incarcerated mothers and their children to maintain regular contact.

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Dedication

I dedicate this dissertation to my daughter who inspired me to work hard and dig deep. She stated she wanted to be like me when she grew up and I wanted to give her something positive to aspire to. This dissertation is also dedicated to my family who inspired me to find out why incarceration affects families.

Acknowledgments

I first give thanks to my family, who helped me through this process. Their struggles, disappointments and victories helped me to obtain this degree in hopes of helping future generations. I spent my life in fear of being great until I was showed that I can soar. Thank you to my dissertation chair Dr. Karel Kurst-Swinger, and co-Chair Dr. Christopher Jones for pushing me past my limits and helping me to see that I have what it takes to finish what I started.

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Chapter 1: Introduction to the Study

Introduction

In the wake of rising incarceration rates for women, scholars and policy makers are interested in how and why maternal incarceration might influence developmental outcomes for the children of incarcerated mothers. In the quantitative literature, there has been ongoing disagreement regarding the correlative dynamics of maternal incarceration and child outcomes (Johnston, 2012; Ng, Sarri, & Stoffregen, 2013; Turney & Wildeman, 2015a). However, both quantitatively and qualitatively oriented researchers have reached a consensus that some children are negatively affected by maternal incarceration.

Having an incarcerated mother could play a causal role in influencing a child to adopt criminal behaviors. There are many possible negative effects attributable to juvenile incarceration. One possible effect discussed at length in the literature is that of future criminality. Researchers suggested that there is a correlation between maternal incarceration and early-childhood delinquency; thus, there should be some empirical grounds for believing that maternal incarceration might be a precursor of intergenerational criminality. Such a correlation could, if turned into a predictive model, assist stakeholders including school psychologists, juvenile justice personnel, school principals, and many others to identify young children at particular risk for criminality in the wake of maternal incarceration.

The Fragile Families and Child Well-Being Study (FFCWS; Princeton, 2014) conducted by faculty at Princeton and Columbia Universities contains data on nearly 5,000 children of unmarried families. Research personnel associated with the FFCWS dataset conducted interviews with the unmarried parents of children born in large

urban cities in the United States between 1998 and 2000; then, from 2007 to 2009, researchers interviewed children themselves. In the first wave (1998-2000), researchers asked about the incarceration status of both mothers and fathers. In the second wave (2007-2009), researchers asked children about their own delinquency. Princeton (2014) suggested that childhood delinquency behaviors may be predicted from maternal incarceration status. Moreover, because Princeton included demographic data on both children and families, the dataset was used to generate predictions of delinquency behavior that incorporate covariates related to gender, race, and a number of other factors. Data from this study are available for public download from the Fragile Families and Child Well Being website (Princeton, 2014). Although the FFCWS has been used by many empirical researchers in many contexts, it has never been used to predict childhood delinquency from maternal incarceration.

I used the FFCWS in this study to predict childhood delinquency from maternal incarceration. This chapter is organized by introduction, background, problem statement, purpose of study, research questions, theoretical framework for the study, nature of study, definitions, assumptions, scope and definitions, limitations, significance, and summary.

Background

There are many possible negative effects that are attributed to juvenile incarceration. A possible effect discussed at length in the literature is that of intergenerational criminality in which children learn criminal behavior from the incarcerated mother. Criminal behavior is learned; therefore, having an incarcerated mother could play a causal role in influencing a child to adopt criminal behaviors (Turney & Wildeman, 2015a). Researchers have suggested that acts of childhood

delinquency are themselves a sequel to mothers' criminality (Thompson & Morris, 2016). Accordingly, if a correlation between maternal incarceration and early childhood delinquency exists, there would be some empirical grounds for believing that maternal incarceration might be a precursor of intergenerational criminality. Such a correlation could, if turned into a predictive model, be used to assist stakeholders, including school psychologists, juvenile justice personnel, school principals, and many others to identify young children at risk for criminality in the wake of maternal incarceration. Because the Princeton FFCW study included demographic data on both children and families, the dataset can be used to generate predictions of delinquency behavior that incorporate covariates related to gender, race, and a number of other factors.

As McCord, Spatz Widom, and Crowell (2001) argued, the emergence of modern policies and social attitudes regarding juvenile delinquency was shaped by a collective perception of the mother's central role in a child's life. The post-World War II participation of many mothers in the workforce was often cited as a reason for juvenile delinquency in the late 1940s and throughout the 1950s (McCord et al., 2001). Maternal incarceration has been cited as a proximate reason for juvenile delinquency (Johnston, 2012; Ng et al., 2013; Turney & Wildeman, 2015a). However, there is limited empirical work on whether maternal incarceration and child outcomes are related and what particular qualities might mediate the relationship between maternal incarceration and child outcomes.

Problem Statement

The problem that I addressed in this study is that the association between maternal incarceration and the subsequent development of delinquency in the child

has been imperfectly and incompletely measured in the literature, as concluded by Turney and Wildeman (2012). While there have been empirical studies (Baglivio, Epps, Swartz, Huq, Sheer, & Hardt, 2014; Baglivio, Wolff, Piquero, & Epps, 2015; Fox, Perez, Cass, Baglivio, & Epps, 2015) on incarceration and juvenile delinquency outcomes, the researchers have not distinguished between maternal and paternal incarceration. For reasons related to attachment and utilitarian theory of punishment, this study tested attachment and utilitarian theory related to maternal attachment. There is theoretically likely to be a greater effect of maternal incarceration on juvenile delinquency, highlighting the importance of differentiating between maternal and paternal incarceration in research designs.

The number of incarcerated mothers in the country was approximately 105,000 in federal and state prisons (The Sentencing Project, 2014). Approximately 75% to 80% of these mothers had children younger than 18 years, totaling approximately 200,000 children (Hagan & Foster, 2012). It is likely that children whose parents have been incarcerated will follow the same footsteps and be incarcerated (Uggen & Celrath, 2014). Sentencing disparities among female prisoners are an issue. Prior researchers have suggested that offender sex, age, and race are often influential determinants of sentencing outcomes. According to focal concerns theory, these factors affect sentencing due to limited time and information; therefore, judges rely on stereotypical behavioral expectations when assessing offender blameworthiness and dangerousness (van Wingerden, van Wilsem, & Johnson, 2016). For this reason, the prison systems in the country are demographically biased. These biases are highly related to the rate of incarceration among women. To understand

this, several factors are considered, including the kind of crimes involved and the duration of the sentence.

With knowledge of the mother in prison, one can identify the particular demographic characteristics of the children who are most affected by the incarceration of women. Information from the research (Hagan & Foster, 2012; Swisher & Shaw-Smith, 2015; Wildeman, 2014a) and data from The Sentencing Project (2014) indicated that there are many flaws in the way women are arrested, convicted, sentenced and incarcerated in the prison system. Wildeman (2014b) indicated that prison marginalizes people of low socioeconomic backgrounds, women, and people of color. The statistics from various studies of prison systems indicated that most incarcerated mothers are racial or ethnic minorities as opposed to Caucasian (Smith & Braithwaite, 2016; Carson & Golinelli, 2013). Demographics also showed that most incarcerated women come from impoverished neighborhoods and low social class (Hagan & Foster, 2012; Swisher & Shaw-Smith, 2015; The Sentencing Project, 2004; Wildeman, 2014a). There are disparities in the prison systems, and the children from such communities suffer the most. These disparities are alarming, because only 12.3% of the United States' population is African-American. The disparities are reproduced in the rate at which African-American children are committed to the juvenile detention system (Hagan & Foster, 2012; Swisher & Shaw-Smith, 2015; Wildeman, 2014a).

In the 1970s, approximately 340,000 Americans were imprisoned; today there are approximately 2.3 million (Shlafer, Gerrity, Ruhland, & Wheeler, 2013). One consequence of this dramatic increase is that, with dependent children, there are more mothers and fathers in jail (Shlafer et al., 2013). For example, since the war on drugs

began in the 1980s, the rate of incarcerated mothers has increased by 100%, and the rate of incarcerated fathers has increased by more than 75% (Shlafer et al., 2013).

The health of juveniles with parents incarcerated is of great concern. Research findings on depression and aggression among children of incarcerated parents was mixed and highly differentiated by gender, age, race, and family (Kopak & Smith-Ruiz, 2015). One study, for example, has shown significant increases in depression in African American children and children who have both a mother and a father in prison (Kopak & Smith-Ruiz, 2015). Another study found that parental imprisonment is not related to a change in aggression, but that the results are strongly mixed (Murray, Bijleveld, Farrington, & Loeber, 2014). Twenty percent of the children sampled saw an increase in aggression; boys who tended to be aggressive before the incarceration of a parent were most at risk of an increased aggression (Murray et al., 2014).

The cost of providing mental health services to juveniles with incarcerated parents is also a concern. Mental, emotional, and behavioral disorders among youth cost \$247 billion annually in mental health and health services (George, Zaheer, Kern, & Evans, 2017). According to The National Center for Mental Health and Juvenile Justice, 70.4% of youth in the juvenile justice system were diagnosed with at least one mental health disorder (George et al., 2017). In addition, high-risk youth are estimated to cost taxpayers from \$1.2 to 2 million each for rehabilitation, incarceration, and costs to victims (George et al., 2017).

Incarceration rates in the United States have undergone a rapid increase during the past several decades, and although more men are incarcerated than women, incarceration rates for women have risen faster than for men in recent years (Federal

Bureau of Investigation [FBI], 2010; Scott, Dennis, & Lurigio, 2015). Because of these alarming rates and disparities, additional research is needed to determine whether the young children of incarcerated mothers are more at risk for delinquency, and to predict (based on demographic and other factors) which children of incarcerated mothers are most at risk for delinquency. The lack of research on these topics makes it difficult for school psychologists, principals, and juvenile justice personnel to better allocate their limited resources toward children who are at special risk for delinquency. This research may assist practitioners in determining whether children of incarcerated mothers are affected so that they can fine-tune their programs around their limited resources. State legislatures may be able to use the research to determine if there is a need to allocate funds for further research and/or programs for families. In addition, this study also has implications for decision-making in corrections.

Purpose of the Study

My purposes in this quantitative, correlational study are to determine whether there is a positive correlation between maternal incarceration and juvenile delinquency—a measurement of correlation, and to identify the covariates that are most likely to influence the relationship between maternal incarceration and juvenile delinquency to aid in forecasting delinquency. These purposes were achieved through the application of an independent samples *t* test and the analysis of variance.

Research Questions

The research questions of the study are as follows:

RQ1: Is there a significant relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?

H1₀: There is not a significant relationship between maternal incarceration and the existence of delinquent behavior of their children.

H1_A: There is a significant relationship between maternal incarceration and the existence of delinquent behavior of their children.

RQ2: Does the child's gender mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?

H2₀: The child's gender does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

H2_A: The child's gender mediates the relationship between maternal incarceration and the existence of delinquent behavior of their children.

RQ3: Does the child's race mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?

H3₀: The child's race does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

H3_A: The child's race mediates the relationship between maternal incarceration and the existence of delinquent behavior of their children.

RQ4: Does the quality of a child's current relationship with the primary caregiver mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?

H4₀: The quality of a child's current relationship with the primary caregiver does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

H4_A: The quality of a child's current relationship with the primary caregiver mediates the relationship between maternal incarceration and the existence of delinquent behavior of their children.

RQ5: Does the child's disciplinary environment mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?

H5₀: The quality of a child's current disciplinary environment does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

H5_A: The quality of a child's current disciplinary environment mediates the relationship between maternal incarceration and the existence of delinquent behavior of their children.

The FFCWS was originally designed to address four questions of interest to researchers and policy makers. One of those questions was related to the relative successes and failures of children born into fragile families (Princeton, 2014). Collaborative studies included information on parents such as employment, early childhood education, and incarceration histories (Princeton, 2014). A 15-year follow-up study was funded by the Eunice Kennedy Shriver National Institute of Child

Health and Human Development. In-home and telephone survey data from caregivers and teens began in February 2014 (Princeton, 2014). Data sets from the FFCWS are publicly available and were used for the testing of each of the research hypotheses of this study.

Theoretical Framework

The theoretical explanations for a positive correlation between maternal incarceration and juvenile delinquency are utilitarianism and attachment theory. The utilitarian theory of punishment indicated that offenders should be punished to discourage, or deter future wrongdoing. Under the utilitarian philosophy, laws should be used to maximize the happiness of society. Because crime and punishment are inconsistent with happiness, they should be kept to a minimum. Utilitarians understand that a crime-free society does not exist, but they endeavor to inflict only as much punishment as is required to prevent future crimes. In relation to attachment, there is a consensus among biologists, psychologists, and other scientists that the duration and quality of the mother-child bond is highly determinative of future outcomes for the child (Anderson, Gooze, Lemeshow, & Whitaker, 2012; Cabrera, Hofferth, & Hancock, 2014; Cawley & Liu, 2012; Coley & Lombardi, 2013; Coyne, Långström, Rickert, Lichtenstein, & D'Onofrio, 2013; Gibson-Davis, 2014; Glover, 2014; Heiland, Price, & Wilson, 2014; Hibel, Granger, Blair, & Finegood, 2015; Hsin & Felfe, 2014; Luby et al., 2012; Parise & Csibra, 2012; Plant, Pianta, Sharp, & Pawlby, 2015; Russ, Larson, Tullis, & Halfon, 2014; Sliwa, Must, Peréa, & Economos, 2015; Turney & Wildeman, 2015a). However, there has been an ongoing controversy regarding how, exactly, the maternal bond shapes or fails to shape the prosocial orientation of growing children. Psychologists associated with the theory of

mentalization have argued that mothers are the pivotal figure in teaching children empathy, which is the cornerstone of prosocial behavior (Ensink et al., 2015; Taubner, White, Zimmermann, Fonagy, & Nolte, 2013). Psychologists associated with attachment theory have argued that mothers provide an emotional outlet that goes far beyond the teaching of empathy, shaping the child's emotional life in many ways (David, Gelberg, & Suchman, 2012; Péloquin, Brassard, Lafontaine, & Shaver, 2014).

Other scholars have argued that maternal involvement is important because of reasons related to engagement and modeling (Adamski, Fraser, & Peiro, 2013; Hampden-Thompson, Guzman, & Lippman, 2013; Hayes, 2012; Houchen, 2013; Karp et al., 2014; Lanza & Taylor, 2010; Poon-McBrayer & McBrayer, 2013; Stacer & Perrucci, 2013; Williams & Sánchez, 2012; Zumbrunn, McKim, Buhs, & Hawley, 2014). Attachment ensures that a child not only learns right from wrong but is able to understand why the behavior was wrong. The child will likely not engage in wayward behavior because he or she is attached to the person who has modeled the positive behavior and do not want to disappoint them.

As Turney and Wildeman (2015a) argued, the correlation between delinquency and maternal incarceration is bidirectional; it can explain not only how a mother's incarceration could hurt a child, but also how a mother's incarceration could help a child—for example, by removing from the child's life a disengaged mother who modeled bad behaviors. If maternal incarceration is found to correlate with delinquency in the child, then it is possible that, overall, incarcerated mothers—whether through failures in attachment, mindsets, engagement, or other mechanisms—become part of the causal chain of delinquency. If, on the other hand, there is no effect (or even a negative effect) of maternal incarceration on child

delinquency, then it is possible that mothers rendered absent through incarceration were neutral or bad influences on the child, and that their removal from the child's life was not associated with the development of delinquency in the child. These findings may be important in the development of public policy and decision making on the part of public administrators.

Nature of the Study

My research was quantitative and correlational in nature, using an existing dataset from the FFCWS. Correlational designs have been defined as variables included in correlational research that are used to describe the relationship between or among variables (Keppel, Saufley, & Tokunaga, 1992). In this study, the characteristics of maternal incarceration, delinquent behaviors, race, parental relationship quality, and disciplinary environment are variables that I measured from the FFCWS dataset. My focus in this dissertation was on relating the independent variable of maternal incarceration to the dependent variables, to address a gap in the literature, determine a need for public policy related to delinquency, and to assist state legislatures, practitioners and policy makers in fine-tuning their budgets around limited resources. I obtained all data for the study from the publicly available Princeton (2014) study, which I selected because it is a large-sample dataset tracking several variables related to maternal incarceration and juvenile delinquency. I provide further details on the design in Chapter 3.

Definitions

I adopted the following definitions in this study:

Disciplinary environment. In this study, *disciplinary environment* is defined as elements of parental/caretaker discipline specified on the second-wave

questionnaire of the FFCWS; the questionnaire items measure several distinct manifestations of the disciplinary environment and can also be scored to represent a scale of discipline. This was measured with an interval scale of measurement by forming a composite score (the mean) of the responses to questions that measure this construct.

Juvenile delinquency. Juvenile delinquency was measured as one of the dimensions of children's mental health (such as internalizing, externalizing, and various subscales such as aggression, withdrawal, and anxious/depressed) and is defined as child delinquent acts specified on the second-wave questionnaire of the FFCWS. The questionnaire items measure several distinct manifestations of delinquency and can also be scored to represent a scale of delinquency. This was measured using an interval scale of measurement.

Maternal incarceration. Maternal incarceration was measured in the first-wave questionnaire of the FFCWS; if the mother was incarcerated at the time of the study, this fact was noted on the questionnaire and served as the definition of being incarcerated. This is a nominal dichotomous variable with 0 indicating not-incarcerated and 1 signifying incarceration.

Parental relationship quality. In this study, parental relationship quality was measured operationally in terms of nine questions posed to children in the FFCWS. These questions centered on parental engagement, knowledge, and other aspects of the parent-child relationship, and were measured on a scale of 0 to 18. This was measured using an interval scale of measurement.

Assumptions

One of my assumptions in this study was that the quantitative data in the FFCWS dataset, which is the dataset used for this study, are valid and reliable. Creswell (2015) mentioned that validity is the development of sound evidence to demonstrate that the test interpretation of scores about the measured concept or construct matches its proposed use. The author mentioned that reliability means that scores from an instrument are stable and consistent; scores should nearly be the same when researchers administer the instruments multiple times and at different times. In the study, *validity* refers to the degree to which this study accurately reflects or assesses the specific concept that the researcher is attempting to measure. Accordingly, I assumed that the participants in the study provided honest and unbiased answers. Researchers have a responsibility to protect the privacy of study respondents and to create a sense of trust to attain responses that are not biased.

I also assumed that independent samples *t* tests and analysis of variance are the appropriate means of measuring the relationship between the independent variable and dependent variables of the study.

Scope and Delimitations

The scope of the study is based on and defined by the FFCWS dataset. The study was delimited to the individuals interviewed in the FFCWS dataset. The data in this dataset were procured from individuals in families in which the mother and father were not married at the initial time of interview, and from individuals in large urban settings, both of which delimit the findings of the study further.

Limitations

The study was limited by not including other unforeseen confounding variables. Therefore, I have included only four covariates in the analysis. The limitations of covariate quality and number are rooted in the limitations of the FFCWS dataset. The study was also limited in that, as a quantitative study, I cannot understand or explicate the reasons for any observed relationship between maternal incarceration and juvenile delinquency from the study results. Qualitative studies are based on human experiences and observations and do not ignore the “gut” instinct. For this reason, data collected for qualitative studies can be applied to feelings and experiences more successfully. Another limitation of the study involves the duration of the relationship between maternal incarceration and subsequent child outcomes. The FFCWS’ first wave was conducted on families in which a child was born between 1998 and 2000, and the second wave (from 2007-2009) measured outcomes among these children when they were approximately 9 years old. The specific longitudinal research design of the study meant that biological mothers who were incarcerated at the time of the first wave would not have had much time in their children’s lives—anywhere from a few days to approximately a year and a half. As such, the FFCWS was not designed to measure the effects of a biological mother being around for a long time and then departing. One other limitation was the use of self-reporting questionnaires, which many reflect a social desire rather than actuality, and study participants may have been unwilling to admit to their true behaviors.

Significance

Between 1991 and 2007, the last year for which the United States Bureau of Justice Statistics (2014) provided data on this metric, the number of incarcerated

mothers in both state and federal prisons increased by 222%. During the period from 1991 to 2014, however, the juvenile arrest rate declined from 7,466.4 per 100,000 persons to 3,008.1 per 100,000 persons (Office of Juvenile Justice and Delinquency Prevention, 2018). Despite the existence of these population-level data, no empirical studies have measured the correlation between maternal incarceration and acts of juvenile delinquency, although maternal incarceration remains a potential predictor of more serious kinds of delinquency and crime. The main significance of my study was its ability to correlate maternal incarceration with delinquency behaviors on the part of young children, contributing to the limited body of empirical knowledge on the relationship between maternal incarceration and delinquency / criminality in the child of the incarcerated mother. The second significance of the study lay in my use of statistical methods to more precisely estimate the contribution of factors such as gender, race, current parental relationship quality, and current disciplinary environment to the relationship between maternal incarceration and childhood delinquency.

Summary

Although the average number of children per incarcerated individual is not known, figures suggest that possibly millions of children in the United States either currently have a parent who is incarcerated or have had an incarcerated parent at some point in their lives. Children of incarcerated mothers are at an increased risk for psychological, social, and emotional maladaptation. The research problem that I addressed in this study was that the association between maternal incarceration and the subsequent development of delinquency in the child has been imperfectly and incompletely measured in the literature.

My purposes in this quantitative, correlational study were to (a) determine whether there is a positive correlation between maternal incarceration and juvenile delinquency in the behavior of the incarcerated mother's child, and to (b) identify the covariates that are most likely to influence the relationship between maternal incarceration and juvenile delinquency. These purposes were achieved in the subsequent portions of the study. In Chapter 2, the literature search strategy is detailed, and discussion of the theoretical foundation and conceptual framework is provided. Key variables and constructs are discussed as well as an exhaustive list of the current literature. I conclude Chapter 2 with a summary.

Chapter 2: Literature Review

Introduction

The number of women in prison has increased dramatically in the last several decades, yet there is little research into women's experiences in prison and how it affects their families. The effects of female incarceration on child well-being is of particular concern, because incarcerated women are much more likely than their male counterparts to be primary caregivers of minor children at the time of their imprisonment. This lack of care for her children may affect the child's well-being detrimentally, potentially resulting in greater strains on systems of care for children.

The association between maternal incarceration and the subsequent development of delinquency in the child has been imperfectly and incompletely measured in the literature, as concluded by Turney and Wildeman (2012). Because of this gap in the literature, there is a need for additional research to determine whether the young children of incarcerated mothers are more at risk for delinquency and to predict (on the basis of demographic and other factors) which children of incarcerated mothers are most at risk for delinquency (Abrantes, Seabra, & Lages, 2007; Desmond, 2012; Dumont, Allen, Brockmann, Alexander, & Rich, 2013; Johnston, 2012; Lichtenstein, 2015; Ng, Sarri, Shook, & Stoffregen, 2012; Ng et al., 2013). My purpose in this quantitative, correlational study was to examine the relationship between maternal incarceration and juvenile delinquency in the incarcerated mother's child as a means of informing public policy and public administration. In addition, I included an identification of the covariates that are most likely to influence the relationship between maternal incarceration and juvenile delinquency.

This literature review includes three main areas. The first area is that of attachment theory. Attachment theory, as expounded by Bowlby and other seminal figures in the field of psychology, has indicated one plausible explanation of how and why the incarceration of mothers could bring about negative effects—such as the adoption of delinquent and/or criminal behaviors—in the life of the child. The second area is that of engagement. Engagement is a concept that is conceptually related to, but functionally distinct from, attachment, because it becomes particularly important in a different phase of the child's life. Although attachment theory is often focused on the earliest experiences between a mother (or other caregiver) and child, engagement theory has most often been used to discuss the influence of mothers (and other caregivers) on school-age children, such as those represented in the FFCWS dataset that I used in this study. In this section of the literature review, some background on delinquency is presented and related to the issue of maternal incarceration. The third section includes a summary of research related to juvenile delinquency.

The variables of the study, which are discussed further in the literature review, are as follows: maternal incarceration (which is operationalized as maternal absence), juvenile delinquency, gender, race, parental relationship, and the disciplinary environment. Maternal incarceration is the underlying variable in the discussion of attachment theory and engagement theory. Issues of race and gender have been discussed under the headings of engagement and delinquency. The nature of the parental relationship and the disciplinary environment has been discussed under the heading of engagement as well.

Literature Search Strategy

A thorough literature search was completed for the literature review. The academic research databases that I used for the literature search are outlined in Table 1. The databases included: Academic Search, Cochrane Library, CINAHL, EconLit, Google Scholar, IngentaConnect, EBSCO (single search), SingleDirect, JSTOR, PsycInfo, and Web of Science. The search terms that I used for the literature review included *maternal incarceration, attachment theory, parental engagement theory, juvenile delinquency, maternal incarceration and child and development, and social implications of maternal incarceration.*

Table 1

Search Matrix for Literature Review

Search terms	Academic research databases
<ul style="list-style-type: none"> • <i>Maternal incarceration</i> • <i>Maternal incarceration AND child AND development</i> • <i>Attachment theory</i> • <i>Parental engagement theory</i> • <i>Juvenile delinquency</i> • <i>Social implications of maternal incarceration</i> 	<ul style="list-style-type: none"> • Academic Search • Cochrane Library <ul style="list-style-type: none"> • CINAHL • EconLit • Google Scholar • IngentaConnect • EBSCO (single search) <ul style="list-style-type: none"> • ScienceDirect • JSTOR • PsycINFO • Web of Science

Review of Literature

Parental incarceration affects children and creates an at-risk population that often goes undetected by the school system and child-protective service agencies (Thompson & Harm, 2000). This problem is exacerbated when mothers are their children's sole provider. Many of these mothers are placed behind bars and their children are placed in foster homes or with relatives (Smith & Farrington, 2004).

In many states, such as Michigan, Texas, and California, a mother who is sent to prison for 2 years is at risk of losing custody of her children (Farrington, 2006). According to The U.S. Department of Health and Social Services, the grounds for involuntary termination of parental rights are specific circumstances under which the child cannot be returned safely home because of risk of harm by the parent or the inability of the parent to provide for the child's basic needs. Each state is responsible for establishing its own statutory grounds, and therefore vary by state. When incarcerated mothers have completed their sentence, they are sent back into society to attempt to regain custody of their children, gain control of their lives and prove to others that they are rehabilitated and will not engage in any further criminal activity. Some states such as Michigan and Texas require parents to prove that they are capable of parenting, requiring them to take parenting classes and attend counseling as well as other programs the state identifies as necessary in proving that the mother is an adequate parent (Farrington, 2006).

Children with incarcerated parents are at risk for emotional and behavioral problems (McWhirter, McWhirter, McWhirter & McWhirter, 2007). According to Farrington (2006), substance abuse, homelessness, child abuse / neglect, and a parental history of mental illness are family characteristics frequently present, suggesting incarceration increases the vulnerability of already-vulnerable children. Children with parents who were incarcerated are more likely to be juvenile delinquents themselves. According to Smith and Farrington (2004), children of mothers who have a criminal history are 48.6% more likely to display behavioral problems in early childhood through adulthood. Martin, Martin, Dell, Davis, and Guerrieri (2008) found that the primary feature among incarcerated juvenile offenders

was traumatic experiences during childhood. They also found that male delinquents had a family history of abuse, neglect, parental substance abuse, and parental imprisonment. Additionally, parental criminality is a preeminent predictor of unlawful behavior in juveniles (Martin et al., 2008). Martin et al. (2008) concluded that parental incarceration is a predictor of antisocial behavior in young male offenders that persists into later life.

The increasing number of incarcerated mothers has had a significant effect on families, and particularly on children. Although it is difficult to state with certainty the number of children with incarcerated parents, the Bureau of Justice Statistics (2008) estimated that incarceration of one parent currently affects an estimated 1.7 million children in America. These figures do not represent the aggregate number of children who have not experienced an incarcerated parent during their lifetime, nor does it include dual-parent incarceration (Bureau of Justice Statistics, 2008). In the face of rising incarceration of mothers and its influence on their children, this population lacks support and is under-researched (Murray, 2007). The propensity for the continuation of the cycle of negative family histories and incarceration is considerably greater when children are emotionally and physically cut off from their mothers. Although it is difficult to accurately predict which high-risk children will become juvenile delinquents or persistent offenders, empirical research has consistently shown that cumulative risk factors increase the probability of juvenile delinquency and persistent offending (Farrington, 2006). Substance abuse, homelessness, child abuse/neglect, and parental history of mental illness are family characteristics frequently present in juvenile delinquents, suggesting incarceration increases the vulnerability of these children. Some researchers have argued that the

trauma of parent-child separation may be intensified by repeated episodes of parental incarceration (Wildeman, 2009).

Very few studies relating maternal incarceration to the likelihood of juvenile delinquency (in children nine years of age or younger) were found in the literature, although, as noted, some recent studies of the effects of parental incarceration were found, but no studies were found which involved an examination of maternal incarceration specifically (Baglivio et al., 2014; Baglivio et al., 2015; Fox et al., 2015). Therefore, the focus of the literature review is on theories that can explain how, why, and in what circumstances maternal incarceration could influence the development of delinquency and/or criminality in the child of the incarcerated mother. Subsequently I discuss these theories and relate them to the variables of the study.

Public Policy Theoretical Framework

The public policy theoretical framework chosen for this study is that of utilitarianism. The purposes of this section of the literature review are to (a) explain the background and content of utilitarian theories of public policy and (b) relate empirical findings about the effects of maternal incarceration to the theory of utilitarianism. The overall conclusion of this section of the literature review is that approaches to maternal incarceration that minimize maternal involvement might satisfy a framework of retributive justice but fail to achieve the utilitarian outcome of improving children's outcomes and, by extension, general social outcomes.

Considering the empirical evidence that appropriate parenting opportunities are highly protective of the parents of incarcerated children, perhaps by reducing trauma, improving adjustment, and providing a developmentally appropriate environment and template for children strengthens this conclusion (Arditti & Savla, 2015; Blumberg &

Griffin, 2013; Geller, Cooper, Garfinkel, Schwartz-Soicher, & Mincy, 2012; Gjelsvik, Dumont, Nunn, & Rosen, 2014; McClure et al., 2015; Roettger & Boardman, 2012; Shaw, Bright, & Sharpe, 2015).

Utilitarianism

Rooted in the pioneering work of scholars such as Jeremy Bentham and John Stuart Mill, utilitarianism is a philosophical framework oriented toward the maximization of good outcomes throughout a given society or group of people (Crisp, 2014; Dion, 2012; Hollander, 2016a, 2016b; Nussbaum, 2016). Simply expressed, utilitarianism has been held to promote the maximum good for the maximum number of people (Hallam et al., 2014; Mallia, 2015; Patil, Cogoni, Zangrando, Chittaro, & Silani, 2014). This principle is not only the moral compass of utilitarianism but also a practical means of choosing between public policy alternatives (Austin, 2016; Chetty, 2015; Lo & Spash, 2013; Nussbaum, 2012; Shultz et al., 2012). Using the basic principles of utilitarianism, a public policy can be judged to be good to the extent that it promotes the maximum good for the maximum number of people. As documented in the empirical literature discussed subsequently in this section of the literature review, there are justified reasons to believe that the parenting-restrictive policies followed in many American prisons clash with a utilitarian approach to recognizing and promoting parent-child interaction as a pillar of improved social outcomes (Arditti & Savla, 2015; Blumberg & Griffin, 2013; Geller et al., 2012; Gjelsvik et al., 2014; McClure et al., 2015; Roettger & Boardman, 2012; Shaw et al., 2015).

When utilitarianism was introduced in the 19th century, the concept of ‘the good’ was not as strongly developed as it is today (Crisp, 2014; Dion, 2012; Hollander, 2016a, 2016b; Nussbaum, 2016). In the 20th century, scholars created

more rigorous definitions of goodness (Austin, 2016; Chetty, 2015; Lo & Spash, 2013; Nussbaum, 2012; Shultz et al., 2012). For example, the mathematician John Von Neumann, whose work laid a foundation for game theory and other emerging disciplines, defined goodness in terms of the utility an individual derived from a particular state of affairs (Arrow & Lind, 2014; Finkelstein, Luttmer, & Notowidigdo, 2013; Galaabaatar & Karni, 2013; Markowitz, 2014; Moscati, 2016). Economists have developed mathematical definitions of the so-called utility function, which has been held to drive the economic decision making of individuals (Arrow & Lind, 2014; Finkelstein et al., 2013; Galaabaatar & Karni, 2013; Markowitz, 2014; Moscati, 2016). Moreover, the emergence and spread of statistical techniques that can be used to measure social outcomes (including not only direct measures of utility but also outcomes related to education, perceived quality of life, health, and other variables) has made it possible to define ‘the good’ in a more comprehensive and useful manner than in the 19th century, when utilitarianism was first proposed as a philosophy (Austin, 2016; Chetty, 2015; Lo & Spash, 2013; Nussbaum, 2012; Shultz et al., 2012).

For public policy, utilitarianism has become an important underlying influence, especially in light of the increased popularity of systems theory (Carrier, 2014; Hill, Halamish, Gordon, & Clark, 2013; Ison, Blackmore, & Iaquinto, 2013; Michel, 2016; Oswald, 2015). In contemporary times, public policy theorists and decision makers tend to view public policy decisions in terms of the full extent of their influence (Austin, 2016; Chetty, 2015; Lo & Spash, 2013; Nussbaum, 2012; Shultz et al., 2012). This approach is in radical contrast to public policy orientations in the 19th century and can be understood as an expression of utilitarianism. For

example, the formation of the Children's Bureau and other components of what would become the framework of children's protective services initially took place with a view to isolating children from unfit parents, without any overt concern for the role of parents in the family system (Brodowski, Hernandez, Brown, & Lambie, 2012; Chavkin & Sallee, 2012; Ellett & Harris, 2012; Golden & Brosco, 2012). However, over time, public policies related to the protection of children came to include a more systems-based view of families, an orientation that has expressed itself in laws that prioritize family reunification whenever possible (Brook, McDonald, & Yan, 2012; Chaffin, Hecht, Bard, Silovsky, & Beasley, 2012; Johnson-Motoyama, Brook, Yan, & McDonald, 2013; López, del Valle, Montserrat, & Bravo, 2013; Quinn, Sage, & Tunseth, 2015; Ryan, Perron, Moore, Victor, & Evangelist, 2016; Ryan, Victor, Moore, Mowbray, & Perron, 2016).

The idea of family reunification can be considered in light of utilitarianism. In the old paradigm of public policy, policy makers only considered the interests of children, and there was also a presumption that the interests of children in certain situations could only be served by permanent or enduring removal from their families of origin (Brodowski et al., 2012; Chavkin & Sallee, 2012; Ellett & Harris, 2012; Golden & Brosco, 2012). However, in the 1960s and thereafter, public policy evolved to reflect the emerging scholarly consensus that, except in certainly overtly abusive situations, family reunification is valuable, both for children and parents (Brook et al., 2012; Chaffin et al., 2012; Johnson-Motoyama et al., 2013; López et al., 2013; Quinn et al., 2015; Ryan, Perron, et al., 2016; Ryan, Victor, et al., 2016).

Understood from the perspective of utilitarianism, family unification emerged from the stipulation that the right action is the one that produces the maximum good

for the maximum number of people (Brook et al., 2012; Chaffin et al., 2012; Johnson-Motoyama et al., 2013; López et al., 2013; Quinn et al., 2015; Ryan, Perron, et al., 2016; Ryan, Victor, et al., 2016). The act of removing a child from a family of origin has cascading effects, not only for the child but also for the family of origin.

Conversely, the act of reunifying a child with a family of origin promotes the good of both the child—in terms of the scholarly evidence that children tend to benefit from maintaining family-of-origin relationships—and the other members of a family of origin (Brook et al., 2012; Chaffin et al., 2012; Johnson-Motoyama et al., 2013; López et al., 2013; Quinn et al., 2015; Ryan, Perron, et al., 2016; Ryan, Victor, et al., 2016). Thus, utilitarianism can also be understood as converging with systems theory in the field of child-oriented protective services.

At least within the United States, theories of utilitarianism have not tended to apply within the field of corrections. Rather, the paradigm of retributive justice has guided the formation of penal policy (Dagan & Segev, 2015; Halder, 2014; Liberman, 2013; Markel, 2012; Seamone et al., 2014; van Prooijen, Coffeng, & Vermeer, 2014; Wenzel, Okimoto, & Cameron, 2012). When people are incarcerated, it is primarily as a form of punishment, as the American prison system and its underlying public policy apparatus place far less emphasis on rehabilitation, particularly in comparison to European models (Dagan & Segev, 2015; Halder, 2014; Liberman, 2013; Markel, 2012; Seamone et al., 2014; van Prooijen et al., 2014; Wenzel et al., 2012). There are several examples of this retributive attitude in American penal policy. The examples most relevant to the current study pertain to family relationships. Overall, American correctional institutions do not treat the creation of functional spaces for family interactions as a high priority (Kjellstrand, Cearley, Eddy, Foney, & Martinez, 2012;

Miller et al., 2014; Myers et al., 2013; Robillard et al., 2016; Turney & Wildeman, 2015b; Zeman, Dallaire, & Borowski, 2016).

The United States Department of Health and Human Services has programs and policies that are dedicated to supporting the family unit in those scenarios in which a mother or father is in jail (Arditti & Savla, 2015; Blumberg & Griffin, 2013; Roettger & Boardman, 2012; Shaw et al., 2015; Topitzes, Pate, Berman, & Medina-Kirchner, 2016). In particular, the United States Department of Health and Human Services funds and sponsors parenting programs, but these programs do not take precedence over the prerogatives of correctional agencies themselves. In fact, much of the role of the United States Department of Health and Human Services vis-à-vis the prison system is to make policy recommendations about topics such as longer visiting hours between incarcerated mothers and their children (Arditti & Savla, 2015; Blumberg & Griffin, 2013; Roettger & Boardman, 2012; Shaw et al., 2015; Topitzes et al., 2016).

In non-incarcerated settings, the United States Department of Health and Human Services and its affiliated agencies, particularly in the domain of child welfare, have substantial power to influence the nature of parent-child relationships. For example, the government plays a key role in determining whether, in cases of children being remanded into the child protective system, family reunification will or will not take place (Brook et al., 2012; Chaffin et al., 2012; Johnson-Motoyama et al., 2013; López et al., 2013; Quinn et al., 2015; Ryan, Perron, et al., 2016; Ryan, Victor, et al., 2016). As discussed earlier, the very notion of family reunification is an acknowledgment of both systems theory and utilitarianism, both of which suggest that the outcomes of parents and children have to be considered as part of the same

decision making matrix (Brook et al., 2012; Chaffin et al., 2012; Johnson-Motoyama et al., 2013; López et al., 2013; Quinn et al., 2015; Ryan, Perron, et al., 2016; Ryan, Victor, et al., 2016). However, the roots of retributive justice—both as a philosophy and as a set of public-policy practices—are not based in either systems theory or utilitarianism (Dagan & Segev, 2015; Halder, 2014; Liberman, 2013; Markel, 2012; Seamone et al., 2014; van Prooijen et al., 2014; Wenzel et al., 2012). Retributive justice treats the offender as someone to be punished with minimal, if any, regard for the effects that such punishment or its conditions might have on the relatives of incarcerated people (Dagan & Segev, 2015; Halder, 2014; Liberman, 2013; Markel, 2012; Seamone et al., 2014; van Prooijen et al., 2014; Wenzel et al., 2012).

The clash between the orientation of utilitarianism and the orientation of retributive justice is reflected in the competing goals of family-building promoted by the United States Department of Health and Human Services and in most United States' penal institutions' lack of substantial support for family-building involving an incarcerated inmate (Kjellstrand et al., 2012; Miller et al., 2014; Myers et al., 2013; Robillard et al., 2016; Turney & Wildeman, 2015b; Zeman et al., 2016). These implications can be considered in light of various empirical findings (Arditti & Savla, 2015; Blumberg & Griffin, 2013; Geller et al., 2012; Gjelsvik et al., 2014; McClure et al., 2015; Roettger & Boardman, 2012; Shaw et al., 2015) that suggest a relationship between the absence of appropriate exposure to family-building involving at least one incarcerated parent and a child.

Empirically documented outcomes of the incarceration of household members. According to McClure et al. (2015), the incarceration of parents, particularly mothers, imposes adjustment stresses on mothers, children, and other

family members. These adjustment stresses increase to the extent that incarcerated mothers are unable to maintain meaningful and regular contact with their children, preferably in an environment in which parenting classes and others form of therapeutic support are offered. However, as McClure et al. pointed out, and as many other scholars (Kjellstrand et al., 2012; Miller et al., 2014; Myers et al., 2013; Robillard et al., 2016; Turney & Wildeman, 2015b; Zeman et al., 2016) have confirmed, such conditions often do not exist in prisons in the United States. Therefore, McClure et al.'s recommendation was for policy makers at various levels to work harder to ensure that appropriate parenting environments and support structures could be provided even in scenarios in which mothers went to prison. Based on McClure et al.'s findings, the existence of such opportunities could translate to lower levels of adjustment stress for both incarcerated mothers and their offspring. The result would be a step towards more utilitarian outcomes related to improved conditions for both mothers and children. Geller et al. (2012) had similar findings and recommendations, except with respect to incarcerated fathers rather than incarcerated mothers.

Gjelsvik et al. (2014) conducted a longitudinal study in which it was found that incarceration of household members was associated with lifelong adverse events. These adverse events, which tended to begin in childhood, cascaded across the lifespan, such that even the adult children of incarcerated parents experienced worse medical, social, and economic outcomes in comparison to similar individuals whose parents had not been incarcerated. Gjelsvik et al.'s finding defined utilitarian outcomes over time, indicating that efforts to ensure better parenting environments for incarcerated parents would yield positive results that unfold across many years. These

positive results apply not only to the children of incarcerated parents, but to society at large, as improperly parented children of incarcerated parents are, according to Gjelsvik et al., more likely to be criminals themselves and therefore more likely to hurt society.

Shaw et al. (2015) found that, when parents are incarcerated, children who enter youth care are more likely to encounter abuse and neglect. Thus, the adverse consequences faced by children of incarcerated parents are not necessarily remediated by placing children into foster care situations. This finding of Shaw et al. was consistent with the finding of Gjelsvik et al. (2014) that the incarceration of parents has cascading ill effects of children not only in childhood but also into adulthood.

In the empirical studies discussed earlier, abuse, neglect, criminality, depression, and developmental maladjustment in children are all possible consequences of the incarceration of their parents in combination with the lack of appropriate parenting support in prison. However, there are some other possible outcomes as well. Roettger and Boardman (2012) found that an increased body mass index (BMI) among children is one of the consequences of parental incarceration. Increased BMIs not only represent a substantial health burden to individuals but also create expenses for an American healthcare system that is already severely overburdened by the costs of managing obesity. Therefore, improving BMIs by improving parental access to children and parenting resources, while in prison, could have the unexpected but welcome effect of decreasing overweight and obesity, which would, in turn, have utilitarian consequences for all of society.

Arditti and Savla (2015) suggested that parental incarceration resulted in long-term and largely unresolved trauma among children. Such trauma might be at the root

of the abuse, neglect, criminality, depression, and developmental maladjustment documented among the children of incarcerated parents. In addition, Arditti and Savla found that such trauma remains in children even when they are in supportive foster programs. Thus, there does appear to be something uniquely protective in the maintenance of a parent-child bond, even when the parent is incarcerated.

Strengthening parenting relationship in incarcerated settings is not necessarily difficult. An empirical study by Blumberg and Griffin (2013) found that a simple reading program not only improved the strength of the relationships between incarcerated parents and their children but also exercised positive results on the long-term developmental outcomes of children. Given the simplicity of providing appropriate and utilitarian parenting opportunities in prison, it is worth asking why public policy has, to date, not proven effective in creating better parenting environments in incarcerated settings. It is possible that current public policy on this topic reflects elite interests or is too focused on retributive justice to take the utilitarian aspects of a parenting-positive environment into account.

The adverse childhood experiences (ACE) index is a medical instrument used as a childhood trauma-focused screening tool (Fox et al., 2015). Parental incarceration is one of 10 adverse conditions identified in the index, scores on which are positively associated with juvenile delinquency (Fox et al., 2015). Juvenile offenders who commit the most violent crimes have been described as serious, violent, and chronic (SVC) offenders. Fox et al. conducted an analysis on a large sample of children who had been referred to the Florida Department of Juvenile Justice to determine whether ACE scores could be used to identify children who were at risk of SVC offending. Fox et al. found that each additional adverse experience increases the risk of

becoming an SVC offender significantly, even when controlling for other risk factors. Thus, childhood traumas, including the incarceration of a parent, have been found to increase the risk not only of juvenile delinquency, but of the severest form of offending in children. However, Fox et al. did not examine the effects of parental incarceration as distinguished from other childhood traumas.

Baglivio et al. (2014) found that ACE scores were positively associated not only with involvement in the juvenile justice system, but with risk of reoffending. The authors noted that ACEs, of which parental incarceration is one, were also positively associated with negative physical- and mental-health outcomes throughout life, with corresponding costs potentially borne by the public; this suggested that there is a significant utilitarian interest in minimizing childhood traumas such as parental absence due to incarceration. Like Fox et al., Baglivio et al. (2014) found, through an analysis of data from a large sample of juvenile offenders, that ACE scores in this group were elevated significantly above those in the population of non-offending children, and that ACE scores predicted recidivism. The authors recommended that the ACE index be used to identify children who were at high risk of offending, such that preventative intervention can be implemented.

Robbins (2018) recently conducted a study examining the effects of the incarceration of mothers versus fathers, with a particular focus of the effects on families of color. Robbins found the effects of paternal incarceration to include a lack of bonding between father and child, but primarily affected the family economically, when incarcerated fathers and fathers newly released from jail or prison were unable to contribute to household expenses or make child-support payments. Robbins argued, however, that the effects of maternal incarceration are more serious, because the

mother is typically the child's primary caregiver. When a pregnant woman gives birth in prison, the child is typically only allowed to stay with the mother for a few days, despite evidence that 71% of children in prison nursery programs achieve a secure attachment with their mothers, and that such programs decrease the three-year recidivism rate among mothers by as much as 50 percent. Robbins also noted racial disparities, in that White children are more likely than Black children to live with fathers who have assumed the primary caregiver role during maternal incarceration and are also more likely to be taken into foster care if they have no relatives who can assume caregiving responsibilities.

The effects of maternal incarceration include developmental delays, separation anxiety, and attachment difficulties in young children; behavioral problems, educational delays, and emotional troubles in school-age children, and; school cessation and incarceration in older children (Haney, n.d.). Children of all ages with incarcerated mothers are more likely to live in poverty than children of incarcerated fathers. Additionally, children with mothers in prison are five times more likely to be placed in foster homes than children whose fathers are incarcerated (Mignon & Ransford, 2012). A mother-child bond is unlikely to develop when the mother is incarcerated because less than one half of such mothers receive a visit from their child, and correspondence by phone, email, or letter tends to be infrequent. As adults, children of incarcerated parents are at higher risk of arrest, conviction, and incarceration, with the risk being particularly elevated in same-sex children, such that daughters of incarcerated mothers are at increased risk of involvement with the criminal justice system when they become adults (Burgess-Proctor, Huebner, & Durso, 2016). Additionally, the effects on incarcerated mothers who are unable to

bond with their children include increased recidivism, violent behaviors, and drug use, often directly due to the incarcerated woman's sense that she is an inadequate mother (Barnes & Stringer, 2014).

Conclusion. The tenets of utilitarianism have indicated that public policy decisions ought to be made with the purpose of maximizing good outcomes for the maximum number of people. However, the orientation of retributive justice that dominates in American penal philosophy and practice focuses on the punishment (Dagan & Segev, 2015; Halder, 2014; Liberman, 2013; Markel, 2012; Seamone et al., 2014; van Prooijen et al., 2014; Wenzel et al., 2012) of the incarcerated individual more than on the negative ramifications of such punishment, and its associated conditions, on children (Kjellstrand et al., 2012; Miller et al., 2014; Myers et al., 2013; Robillard et al., 2016; Turney & Wildeman, 2015b; Zeman et al., 2016). There is some empirical evidence that exposure to family-building in an incarcerated setting achieves utilitarian ends, that is, documented benefits for both the incarcerated parent or parents and their children (Arditti & Savla, 2015; Blumberg & Griffin, 2013; Geller et al., 2012; Gjelsvik et al., 2014; McClure et al., 2015; Roettger & Boardman, 2012; Shaw et al., 2015). This evidence and its theoretical underpinning are important sources of support for promoting stronger relationships between incarcerated parents and their children. I found studies that reported that maternal incarceration has a number of negative effects on children and mothers, with potentially profound societal consequences, adding further support to the utilitarian justification for promoting family-building for incarcerated women and their children. However, none of the studies involved a quantitative investigation of the effects of maternal (versus paternal) incarceration on juvenile delinquency in children. The profoundly negative

documented effects of maternal incarceration on children indicate that further investigation of this topic is potentially valuable. The FFCWS database provides an excellent opportunity to explore this relationship.

However, on its own, utilitarianism does not explain why ensuring the strength of the bond between incarcerated parents and their children is important.

Utilitarianism is a means of setting the moral compass and functional rationale of policies—such as policies pertaining to the kinds of interactions that can transpire between incarcerated parents and their children—but not a means of explaining why the parent-children relationship deserves special consideration at the policy level.

Another theory is needed to explain the developmental, social, and overall importance of the parent-child relationship, and the relationship between mother and child.

Attachment theory, which serves such a function, is discussed in detail in the next section of the literature review.

Attachment Theory

The attachment theory is the theory that is used for this research. Attachment theory is a plausible explanation of how the presence or absence of a mother can influence particularly developmental results in the child (Alhusen, Hayat, & Gross, 2013; Bernier, Matte-Gagné, Bélanger, & Whipple, 2014; Bouvette-Turcot, Bernier, & Meaney, 2013; Cuijpers, Weitz, Karyotaki, Garber, & Andersson, 2015; Dubois-Comtois, Moss, Cyr, & Pascuzzo, 2013; Fraley, Roisman, Booth-LaForce, Owen, & Holland, 2013; Gravener et al., 2012; Hayes, Goodman, & Carlson, 2013; Madigan, Atkinson, Laurin, & Benoit, 2013; McCabe, 2014; O'Connor, Monk, & Fitelson, 2014; Pillhofer et al., 2015; Simard, Bernier, Bélanger, & Carrier, 2013; Tharner et al., 2012). Bowlby's seminal work is important to consider in this regard. John

Bowlby's (1969) observations of children in a care home in Britain prompted his theory that mental and emotional health develop in the context of a child's relationship with a primary caregiver. Subsequent work in the field of attachment theory by researchers (Bouchard et al., 2008; Taubner et al., 2013) has produced a robust and empirically validated body of work that extends beyond early developmental considerations to include the nature of adult relationships and parenting (Bouchard et al., 2008; Bowlby, 1980; David et al., 2012; Gauthier et al., 2012; Knox, 2003; Makinen & Johnson, 2006; Taubner et al., 2013). Mary Main's work in adult attachment patterns has produced the adult attachment interview, which has research and clinical applications (Steele & Steele, 2008). Siegel's work has explored, among other things, the ways in which childhood attachment experiences influence parenting behaviors.

Some researchers (Alhusen et al., 2013; Cuijpers et al., 2015; Hayes et al., 2013) suggested that most mental illness including mood disorders, addiction, and personality disorders can be attributed to sub-optimal early attachment experiences. However, Sroufe (2005) pointed out that the multiple factors are at play. He maintained that negative, as well as positive interpersonal experiences in childhood and across the lifespan, combined with genetically determined predispositions, along with early attachment experiences interact to influence life-long outcomes. Nevertheless, attachment theory, as well as public policy, hold considerable relevance in the conceptualization and understanding of child development and subsequent adult emotional and psychological health. Attachment theory provides one model for understanding how supportive adults can positively influence children who have a history of disruption or loss in the context of a parent's incarceration. Additionally, it

is important that public policies consider the fact that not all children experience similar effects of maternal incarceration (Turney & Wildeman, 2015a). For children of mothers who are unlikely to experience incarceration, the negative consequences of maternal incarceration could be driven by several factors, which this study hopes to uncover.

Rather than adhering to the stage theories that were commonly thought to describe psycho-social development at that time, Bowlby introduced a theory that he described as concerning “developmental pathways” (Bowlby, 1988, p. 135). He proposed that patterns of development occur throughout the lifespan and can be largely predicted by the quality and characteristics of relationships a person has with others. From this perspective, attachment theory emphasizes the primacy of the biological aspects of emotional bonds; that is, that emotional connection with other people significantly affects aspects of a person’s biology, and subsequently influences how interpersonal connections are made and maintained. Bowlby hypothesized that the central nervous system (CNS) is the seat of emotional and psychological growth, and that the ways in which infants are treated by caregivers, especially by their mothers, has a profound influence on the development and maturation of the CNS.

Many theorists and psychologists at the time of Bowlby’s early career considered the building and maintenance of close emotional ties with other people to be indicative of dependency or over-dependency. However, Bowlby considered the capacity to build emotional ties with others to be a basic human characteristic and is indicative of emotional and psychological health. Children are born with an innate predisposition for mental and emotional health that depending on the child’s environment and the nature of its early relationships, is supported and nurtured, or

compromised. Children whose parents are “insensitive, unresponsive, neglectful, or rejecting...are likely to develop along a deviant pathway which is incompatible with mental health, and which renders them vulnerable to breakdown, should they meet with adverse events” (Bowlby, 1988, p. 154). Emotional and psychological development tends to have lasting, although not unalterable effects. Development continues throughout the lifespan, and although the likelihood of significant change diminishes with age, change is possible well into adulthood. This lifelong capacity for change operates on negative as well as positive dimensions. Every individual is emotionally and psychologically vulnerable to overwhelming negative life-events, but that vulnerability can be attenuated or accentuated by the quality of early relationship experiences (Bowlby, 1988). Thompson (2006) suggested that secure attachment in infancy creates the framework for later psychological achievement. Attachment status in infancy does not predict socio-emotional functioning at later ages, but rather serves as a foundation from which further development proceeds, depending on other mediating factors, such as disruptions of life-transitions, changes in family functioning, and the socio-cultural environment a child experiences (Thompson, 1999). Just as every individual may experience vulnerability in the face of negative experiences, so too does each individual possess the capacity for positive growth and development in the context of supportive and nurturing environments.

Bowlby (1998) believed that children’s attachment to their mothers was grounded in the fact that she fed and sheltered them. Human behavior is governed by biological needs for food, sex, and shelter. However, since children who were removed from the care of their mothers often did not develop attachment to those who provided them with food and shelter (Alhusen et al., 2013; Fraley et al., 2013;

Gravener et al., 2012), questions were raised as to what, in fact, does support the development of attachment bonds and the mental and emotional health that follows (Bowlby, 1988). Two researchers in particular, influenced the direction of Bowlby's investigations in this regard: Harlow and Lorenz. Bowlby was intrigued by Lorenz's (1935) work, in which he recorded bonding behavior that occurred amongst goslings and ducklings, who are not fed by their mothers, but who nevertheless establish enduring ties to them. Lorenz discovered that goslings would become attached to the first living creature they saw upon hatching, presumably innately predisposed to seeking protection and guidance during their early development. Harlow's (1959) findings that infant Rhesus Macaques preferred the company of a cloth-covered dummy "mother" that did not provide food to that of a wire frame dummy "mother" that did, also supported Bowlby's theory that something other than food drove attachment behavior in at least some animals. Infant Rhesus monkeys demonstrated a clear preference for emotional comfort derived from cuddling with a softer dummy over the physical comfort they received from being fed by the wire frame.

These fields of research, combined with Bowlby's own findings and those of other researchers (especially Ainsworth, 1978), who were studying the effect of maternal care on child development, informed much of Bowlby's subsequent work. Bowlby conceptualized attachment as a goal-directed behavioral system designed to promote and maintain emotional and psychological homeostasis in much the same way physiological systems regulate biological set-points such as body temperature and blood pressure. The attachment system, in his view, is a partly biological, innate predisposition that operates to keep children close to their caregivers' protection and ensure their survival.

In his view, the attachment system is comprised of three components: care-seeking, caregiving, and exploration. Caregiving emerges over time from experiences of how care was provided early in life (Bernier et al., 2014; Dubois-Comtois et al., 2013; O'Connor et al., 2014; Pillhofer et al., 2015). Infants and very young children are concerned exclusively with care-seeking and develop care-giving and exploratory aspects as they mature (Alhusen et al., 2013; Bernier et al., 2014; Cuijpers et al., 2015; McCabe, 2014). Individuals who have successfully sought and received sensitive and appropriate care in their lives learned what is required to respond similarly as they matured. In addition, they learn successful strategies and behaviors for seeking and obtaining care later in life (Fox et al., 2015; Fraley et al., 2013; Gravener et al., 2012). Those children who have been met with neglect or rejection may be less able to respond optimally when called upon to provide care to their own children (Bowlby, 1988; Cassidy, 2001), and may be less skilled at seeking care from others later in life. Schore (as cited in Bretherton, 1985) noted that, in cases where a caregiver fails to respond adequately to a child's need for soothing in stressful situations, the child learns to consider herself as unworthy of help and comfort and develops a strong predisposition to chronic shame and low self-esteem.

The exploratory system is robust in young children who are confident that their primary caregiver reliably and consistently recognizes and promptly meets their needs. It flourishes under conditions where, if a child's care-seeking behaviors are met with appropriate caregiving from their attachment figures. In other words, they know they can return to a secure base for nourishment when they are hungry, for encouragement as they gain competence, and for reassurance if they are frightened. The fear system is activated under conditions of pain, fatigue, or fright, and prompts a

child to seek proximity to, and care from his caregiver for reassurance and comfort, for encouragement, and (if necessary) for intervention (Bowlby, 1988).

Attachment, Development and Behavior

However, besides the function of ensuring survival by prompting close proximity to safety, the attachment system also serves in a relational way to promote emotional and psychological development. The quality of attachment interactions mothers has with their infant has a powerful influence on the quality of emotional and psychological health of the child (Bowlby, 1988). The child's emotional interactions with caregivers have a profound influence on personality development and social competence, which Bowlby hypothesized to be connected to central nervous system development (Bowlby, 1988). Bowlby's suggested that the behavioral system includes not only observable behaviors, but also an internal manifestation, possibly associated with neurophysiological processes. He anticipated that developmental processes, governed by genetic influences as well as environmental and experiential conditions, are at least partly responsible for determining behavior and responses to particular events and situations. His theory was confirmed decades later as science and technology provided greater understanding of the functioning of the nervous system.

Bowlby distinguished between attachment and attachment behavior.

Attachment is conceptualized as a disposition to seek proximity to or contact with another person under certain circumstances (David et al., 2012). It is the feeling a person has of wanting to be close to a specific individual in times of need or stress. When one person is attached to another, they gain a level of comfort and reassurance from having contact with that person. Bowlby's theory of attachment regards the need

for attachment as a “basic component of human nature” (Bowlby, 1999, p. 136). The need for protection, comfort, and support from another is one that is present throughout the lifespan.

Attachments are most often formed first with mothers or a primary caregiver who might be the person most likely to respond to an infant in times of need. Subsequent attachments are formed with fathers and other individuals who are variously involved in the child’s life as supplementary caregivers who might be available when the mother is not (Bowlby, 1988; Ainsworth, 1978). Ainsworth (1978), referring to Bowlby’s (1958, 1969) concept of “monotropy”, suggested that rather than a single attachment figure, children may have attachments to several adults, and that under some circumstances those attachments might be interchangeable. However, under conditions of stress (fear, fatigue, etc.), the mother is usually the preferred attachment figure. Children’s secure or insecure attachment to their primary caregiver is not predictive of the quality of attachment they may have with other individuals. They might be securely attached to one parent, and resistant or avoidant with the other, regardless of primary caregiver status (Bowlby, 1988). Belsky (1999), citing Howes (1988) among others, noted that secure or insecure attachment to a caregiver other than the mother is contingent on the degree of sensitivity, availability, and appropriateness of care in much the same way that it is for infant-mother attachment patterns.

When an infant is hungry or uncomfortable the attachment system is activated and the infant signals to his mother that he requires her attention. Infants’ signals are limited in the early weeks to crying, and after a few weeks include smiling and other vocalizations. In the beginning, the baby sets the pace and the mother adjusts to it.

Then, over time as the relationship develops, they begin to adapt to each other, and a reciprocal relationship evolves. As children become older, they develop other means by which they indicate their need for attachment. They can move closer to their caregivers, reach out and touch them, and eventually use language to express themselves when they need to be encouraged or comforted, praised or reassured. Children begin to develop attachment relationships with siblings and friends, and eventually in adolescence and adulthood attachment includes romantic relationships. Relational interactions with caregivers early in children's lives lay the foundation for the kinds of relationships they will have throughout the lifespan (Sroufe, 2005; Ainsworth, 1978; Cassidy, 2000). Attachment behavior, although less intense in adolescence and adulthood than it is in infancy and childhood, exists throughout the lifespan. According to Bretherton and Munholland (1999), "The term 'secure', in the context of attachment theory, describes an individual's confidence that a protective, supportive figure will be accessible and available, whether the individual is an infant, child, or adult" (p. 91).

Bowlby (1988) argued that theorists who pathologize a person's desire to seek care and comfort from an attachment figure during times of stress lack understanding of the nature of attachment and its function in the development and preservation of mental and emotional health at all ages. Attachment to parental and early childhood caregivers decreases with age, with the addition of siblings, friendships, and intimate partners in adolescence and adulthood. Hazan and Zeifman (1999) found that between the ages of eight and 14 years, peers replaced parents as attachment figures on dimensions of proximity-seeking and safe-haven sources of comfort and emotional support. Parents remain as primary attachment figures, eliciting the greatest distress at

separation and strongest association as secure base. A further shift occurs when romantic attachments develop, and romantic partners replace parents as primary attachment figures. However, relationships developed early in life often continue to have significant influence well into adulthood. Ainsworth (1989) suggested that even for adults who achieve optimum levels of autonomy that attachment to parent figures remains strong. As individuals mature, as peers, careers, and intimate relationships assume primacy in their lives, in most cases a meaningful association with parents continues. Even after the death of a parent the internal model of that attachment figure continues to influence the now-grown child.

Through their relationships with others, children begin to develop representations of their caregivers and of themselves that Bowlby called internal working models. Infants learn from the way they are treated by their caregivers whether they are reliably and sensitively available to meet their needs, or whether they are typically unavailable, rejecting, inconsistent, or frightening. Bowlby hypothesized that the internal working model is relatively fluid throughout the first three years of life, that during that time infants' self/other conceptions are the "property of the relationship" (Bowlby, 1988, p. 143). After that time, he proposed that they become properties of the child, embedded in their personality, and that the nature of future relationships is shaped according to internalized models of self in relation to attachment figures. Thompson (1999) suggested that early internal working models operate as bridges that accommodate more sophisticated expectations of parental care at later ages. Ainsworth (1989) asserted that during the first year of life, infants gradually build up expectations of how they will be treated by others based on their most prevalent experiences. As time passes, the infant begins to organize these

expectations internally into what Bowlby (1982) has termed “working models” of the physical environment, attachment figures, and himself or herself. At some point between the third and fourth birthdays, the child becomes capable of what Bowlby (1982) termed a “goal-corrected partnership.” As the child’s ability to perceive the parent’s motivations or intentions, s/he becomes better able to persuade the parents to adjust their plans to accommodate those of the child.

How infants learn to regard their own selves is a corollary to how caregivers are conceived—whether they regard themselves to be loveable and worthy of care (Bowlby, 1988; Thompson, 1999). Securely attached children have parents who encourage exploration and learn to regard themselves as being competent and capable. Children are ambivalently or avoidantly attached when they have parents who typically reject or ignore attachment signals, or who interfere with exploration and novelty-seeking behaviors. Such children learn to regard themselves as devalued or as incompetent, unable to successfully engage in new experiences (Bretherton et al., 1999). Thompson (2006) noted that internal working models influence future interpersonal choices and hopes, self-appraisal, and other-directed behavior. Specifically, Bowlby (1988) believed that individuals with secure working models of relationships seek and begin to expect supportive, satisfying encounters with old and new partners. In addition, the decision rules for relating to others that are implicit in their relational models cause them to behave in a positive, open manner that elicits such support. By contrast, individuals with insecure working models may, because of the distrust or uncertainty engendered by their relational expectations, anticipate less support from others and may deter the kind of supportive care from which they would benefit. In fact, when their partners respond negatively to their distrust or hostility, “it

confirms their expectations concerning the unreliability of others' acceptance, and their views of themselves as unworthy of such care" (p. 267).

Furthermore, children learn from how their parents respond to their emotions how to express and how to regulate their emotions. When early caregivers acknowledge children's anger or delight, fear or confidence, and frustration or satisfaction, children learn to recognize their feelings. "Whatever a mother fails to recognize in her child, the child learns not to recognize in himself" (Bowlby, 1988, p. 147). When infants are frightened or upset, the soothing and comforting of parents teach children how to soothe and comfort themselves. Children whose caregivers fail to validate their feelings may experience strong emotions as confusing or frightening. They may learn to numb their emotions, or they may become emotionally labile or dysregulated (Schoore, 2003). Bowlby (1988) proposed that vulnerability to certain mental illnesses can be traced to childhood experiences of insensitive, rejecting, or neglecting caregivers. To experience their feelings as transient responses to current circumstances, the children express their feelings in ways that are appropriate to the situation.

Feeney (1999) cited Collins and Reed (1994) who conceptualized working models as being comprised of four interrelated components that influence a person's responses to others on cognitive, emotional, and behavioral levels. They include:

- Memories of attachment-related experiences.
- Beliefs, attitudes, and expectations of self and others in relation to attachment.
- Attachment-related goals and needs.
- Strategies and plans for achieving these goals.

Secure individuals tend to remember their parents as warm and affectionate, avoidant individuals to remember their mothers as cold and rejecting, and ambivalent individuals and to remember their fathers as unfair (Feeney & Noller, 1990). Working models influence cognitive processing by creating biases in memory encoding and retrieval that promote attending to particular aspects of an interaction, and by affecting interpretations of those aspects. For example, secure adults show faster recognition of positive-outcome words set in an interpersonal context, whereas avoidant adults show faster recognition of negative-outcome words (Baldwin, Fehr, Keedian, Seidel, & Thomson, 1993).

Feeney (1999) pointed out that significant changes in the social environment can effect change in working models, either positively or negatively. For example, an individual whose childhood experience led them to have negative expectations about relationships can develop a more secure pattern if they become involved in a stable, satisfying relationship. Conversely, if family circumstances become more difficult and parents separate, or become overwhelmed by life events or illness, previously securely attached children may become insecure.

Thompson (2006) posited that quality of attachment in infancy and early childhood are associated with a dizzying variety of later outcomes, including: parent-child interaction; relations with peers, friends, and siblings; behavior with unfamiliar adults; competence in preschool and kindergarten; exploration and play intelligence and language ability; ego resilience and ego control; frustration tolerance; curiosity; self-recognition; social cognition; behavioral problems and other indicators of incipient psychopathology.” (p. 46)

Main's longitudinal study, noted that 6-year-olds who had been classified as securely attached at one year engaged in much different patterns of communication with their mothers than did 6-year-olds who had been classified as insecure five years earlier (Main, Hesse, & Kaplan, 2005). The communication of securely attached children was characterized as "free-flowing" (Bowlby, 1988, p. 147) and it covered a range of topics and included expressions of emotions. More restricted conversations that took place between insecurely attached children were often marked by abrupt changes of topic. Avoidantly attached children most notably engaged in impersonal conversations devoid of expressions of feeling. Bowlby proposed that, in order for relationships to develop harmoniously both parties need, mutual recognition of each other's perspective, wishes and needs, and the ability to negotiate and accommodate to those of the other. Cassidy (2001) expanded on the importance of collaborative and reciprocal communication between mother and child. Ainsworth, in a personal communication with Cassidy, noted that security beyond infancy means to experience the feeling of being understood. In addition, such feeling definitely embodies secure attachment throughout the life span, with its beginning nestled in infancy.

Bowlby (1988) suggested that as securely attached children mature the working models they developed of themselves and of their parents become modified and adapted to the maturing cognitive and emotional skills of the child. Parents' treatment of older children differs from how they treat an infant, and the relationship evolves to become more collaborative. Insecurely attached children develop relational patterns that do not easily accommodate new or discrepant experiences and are thus more entrenched in unconscious and uncorrected ways. Less accommodating patterns of

relating often generalize to people other than parents, and affect the development of peer, and later intimate relationships (Bretherton & Munholland, 1999).

Factors other than early childhood relationships may intervene to influence development in one way or another that is counter to that suggested by early attachment experiences (Shaver & Mikulincer, 2009). Overall, the evidence points to a strong correlation between how children were treated by their caregivers, how relationships later in life are likely to develop, and how they are likely to treat their own children (Thompson, 2001).

From this perspective, a deeper understanding of the multigenerational effects of parenting styles are potentially self-perpetuating. Parents who did not have the benefit of responsive and nurturing care as children will be at risk for delivering similarly sub-optimal care to their own children. The response then, is to consider them with compassion rather than blame, and to work with them to develop parenting skills that will increase the likelihood of better outcomes for their children (Bowlby, 1988). It also bears pointing out here that, although a mother's own developmental history and attachment to caregivers predicts and influences the attachment behavior she has with her own children, other factors also have significant influences on her capacity to be sensitively and appropriately available to meet the needs of her children. The amount of support she receives from her spouse and community, her own mental and physical health, and the level of stress she is subject to all have a bearing on her capacity to provide sensitive care for her children (Bowlby, 1988). Some parents who have enjoyed optimal caregiving in their early lives experience attachment disruptions that may compromise their emotional capacities as parents;

others who have endured harmful or neglectful early lives benefit from later relationships and experiences that overcome those disadvantages (Bowlby, 1988).

Attachment and the special role of the mother. Early on, attention focused on whether the children were distressed when they were separated from their mothers (Alhusen et al., 2013; Bernier et al., 2014; Bouvette-Turcot et al., 2013; Dubois-Comtois et al., 2013; Gravener et al., 2012; Hayes et al., 2013; Pillhofer et al., 2015; Simard et al., 2013; Tharner et al., 2012). Later analysis (Fraley et al., 2013; Gauthier et al., 2012) indicated that four dimensions of behavior occurred that are essential in identifying the classifications of attachment behavior: (a) proximity- and contact-seeking; (b) contact-maintaining; (c) avoidant; and (d) resistant behaviors. These dimensions of behavior led to the identification of three patterns of behavior that described the majority of children's responses in Strange Situation settings: secure; insecure/ambivalent; insecure/avoidant (Ainsworth, 1978). Not all children met the criteria for these classifications, and in 1986 a fourth category of Insecure / Disorganized was identified by Main and Solomon (1986) as one in which children seemed simultaneously to desire contact with their mothers, and to fear them (Lyons-Ruth & Jacobvitz, 1999; Cassidy, 2001).

These patterns of behavior are associated with certain patterns of maternal behavior toward the children. In the Strange Situation setting when mothers and babies are alone together, securely attached dyads engaged in more direct verbal and non-verbal communication (including eye contact, facial expression, and showing or giving toys) than observed in pairs who were classified as being insecure. This direct contact between mother and child was present for securely attached infants, whether they were content or distressed. Avoidantly attached children most notably engaged in

direct communication with their mothers only when they were contented (Bernier et al., 2014; Hayes et al., 2013; Simard et al., 2013):

1. Secure attachment occurs for children whose mothers were observed to be sensitive and responsive to their child's needs. These mothers were observed to respond more quickly to their children's signals for contact, and to be more tender and affectionate than mothers of insecurely attached children. Ainsworth (1978), referring to the Oxford Dictionary, observed that to feel secure means to feel "untroubled by fear or apprehension" (p. 21). Children who displayed insecure / ambivalent attachment behaviors often have mothers who are inconsistently available to them.
2. The mothers of children whose attachment patterns are described as insecure/avoidant are, more than other mothers, abrupt and perfunctory in attending to their babies' crying. There is a marked decrease in affectionate behaviors toward their children. In strange situation studies their behavior toward their infants is associated with insensitive mothering, linked with ignoring, interfering and rejective behavior (Ainsworth, 1978). Sroufe (2005) reported that the mothers of avoidant children are often emotionally unavailable. He described such mothers as engaging in a minimal amount of emotional communication with their infants, and in regularly rejecting or ignoring the child when requiring attention.
3. Children with insecure/anxious attachment status were observed to have mothers who delayed responding to their children's distress signals. They were also less tender and careful with their infants than mothers of securely attached infants or avoidantly attached babies (Ainsworth, 1978). Sroufe

(2005) found that these mothers were less psychologically aware than mothers of securely or avoidantly attached infants.

Mothers' responsiveness to their child's need for care or attention is very often a reflection of the type of care she received as a child. Mothers who had experienced attentive and sensitive care as children most often provide similar care for their own children. It should be pointed out here though, that life-circumstances might place stresses and demands on mothers that interfere with their inclination to be sensitive and responsive to their needs. Women who have very little family or social support may not have the emotional resources required to be reliably and appropriately available to their children (Bowlby, 1988; Belsky, 1999).

In conclusion, attachment theory offers a plausible account of how and why the presence of mothers could, under certain circumstances, influence children to disavow delinquent and criminal behaviors (Alhusen et al., 2013; Baglivio et al., 2014; Baglivio et al., 2015; Bernier et al., 2014; Bouvette-Turcot et al., 2013; Cuijpers et al., 2015; Dubois-Comtois et al., 2013; Fox et al., 2015; Fraley et al., 2013; Gravener et al., 2012; Hayes et al., 2013; Madigan et al., 2013; McCabe, 2014; O'Connor et al., 2014; Pillhofer et al., 2015; Simard et al., 2013; Tharner et al., 2012). Another plausible theory of maternal influence on the child is that of engagement.

Parental Engagement: A Possible Explanation for Maternal Effects

Engagement can be understood as a specific kind of planned behavior (MacIntyre, Dornyei, Clement, & Noels, 1998) that can be further broken down into expectancy and efficacy. Expectancy is defined as follows:

Expectancy theory states that the strength of the tendency for an individual to perform a particular act is a function of (a) the strength with which he expects

certain outcomes to be obtained from the act, times (b) the attractiveness to him of the expected outcomes. Thus, the theory frequently is summarized by the phrase, “Force equals expectancy times valence” ($F = E \times V$). (Hackman & Porter, 1968, p. 418)

Hence, a parent’s engagement—such as creating space to do schoolwork, checking homework, attending meetings, and otherwise becoming a participant in a child’s academic and social life—is driven by (a) how effective the parent believes his or her engagement to be (expectancy); and (b) how much he or she wants to achieve an outcome such as improved academic performance for the child (valence).

However, psychologists have argued that expectancy theory is not a sufficient predictor of planned behavior; efficacy also must be considered:

Efficacy is a generative capability in which cognitive, social, emotional, and behavioral subskills must be organized and effectively orchestrated to serve innumerable purposes. There is a marked difference between possessing subskills and being able to integrate them into appropriate courses of action and to execute them well under difficult circumstances. People often fail to perform optimally even though they know full well what to do and possess the requisite skills to do it. (Bandura, 1997, pp. 36-37)

Simply put, sometimes parents do not believe in their own abilities and therefore sabotage their ability to engage (Adamski et al., 2013; Hampden-Thompson et al., 2013; Stacer & Perrucci, 2013).

According to Henderikus (2010), a theory “is normally aimed at providing explanatory leverage on a problem, describing innovative features of a phenomenon or providing predictive utility” (Henderikus, 2010, p. 1498). Between them, self-

efficacy and engagement theories provide a means of understanding how and why some parents engage while others do not, predicting what can be done to improve parental engagement, and describing parental engagement as a function of psychic processes. In this way, expectancy and self-efficacy are useful theoretical frameworks for understanding engagement, which is itself a possible mechanism through which mothers make a positive difference in the lives of their children.

Parental engagement is an act of interaction—for example, between a parent and a student or between a parent and a teacher. Parental engagement is also a planned interaction; unlike a simple and reflexive form of behavior, such as breathing, engagement is a cognitively demanding task that requires purposive action. Therefore, the interactional component of parental engagement can be understood regarding a planned behavioral such as the one in Table 2 below.

Table 2

McIntyre et al.'s Planned Behavior Model

Layer	Components
VI: Social and individual context	Intergroup climate Personality
V: Affective-cognitive context	Intergroup attitudes Social situation Competence
IV: Motivational propensities	Interpersonal motivation Intergroup motivation Self-confidence
III: Situated antecedents	Constraints or environment
II: Behavioral intention	Willingness to make decision
I: Decision-making behavior	The decision itself

Note. Adopted from MacIntyre et al. (1998, p. 551)

Engagement is an example of actual behavior. Creating a safe emotional space, checking homework, offering feedback, visiting a teacher, and attending a school meeting are all engagement behaviors that are Layer I of the planned behavior model. However, there are many predecessors of this behavior, as apparent in Table 1, and an awareness of these predecessors is particularly important in any phenomenological understanding of engagement. For example, in Layer VI, the parent's personality and the general climate (for example, the climate between a particular family and the neighborhood) inform the parent's attitude about engaging in Layer V. If the parent is competent to engage, and if there is an appropriate social situation as well as a generally positive attitude on the part of the parent, then the parent is beginning to form an intention to engage. In Layer IV of the model, the constructs of self-efficacy and expectancy become especially important. If a parent feels a lack of confidence, does not prize the outcome of improvement for his or her child, or does not believe that what he or she can do can influence the outcome, then

the desire to engage fades. On the other hand, if self-efficacy and expectancy are present, then the last check in engagement behavior is the immediate environment. For example, a parent might have come successfully through Layers VI-IV of the planned behavior model, but a sudden argument between parent and child would create an environment (in Layer III) that prevents the realization of engagement.

Parental engagement is often understood in terms of ensuring children's academic success, which is highly correlated with an absence of delinquent and criminal behaviors (Lanza & Taylor, 2010). Parental involvement is one of the most overlooked aspects of American education today, many parents do not realize how important it is to get involved in their children's learning (Williams & Sánchez, 2012). As the child grows older, for example, there is a tendency for parents not to be involved as much as they were in the elementary grade level (Williams & Sánchez, 2012). A misconception in getting parents to remain involved is that they often perceive their involvement in school to have to be a physical presence (Adamski et al., 2013). Parents do not grasp the fact that assisting students with homework and reading to students are ways of maintaining involvement in their education (Hampden-Thompson et al., 2013). Children who have little to no parental or family support often drop out of school, become unemployed, or possibly get involved in some type of criminal and illegal activities (Stacer & Perrucci, 2013). As incarcerated mothers cannot provide engagement, incarceration could surely play a role in the causal chain of circumstances that lead children to engage in delinquent or criminal behavior (Desmond, 2012; Dumont et al., 2013; Ng et al., 2012; Turney & Wildeman, 2015a).

Special Engagement Problems and Opportunities Confronting Black Families

Black Americans are incarcerated at rates that are disproportional to their representation in the overall population (Matthews, Hammond, Nuru-Jeter, Cole-Lewis, & Melvin, 2013). The typical Black family struggles to deal with many factors that affect every member of the family, and it is evident that the needs of Black children are very complex (Cokley et al., 2014; Davis, 2012; Durkee & Williams, 2015; Hunn, 2014; Theron, 2013). Incarcerated Black mothers are no longer available to engage in the kinds of academic engagement that have been demonstrated to lead Black children away from delinquent and criminal behavior. Productive forms of parental engagement in Black families include: (a) working within school systems, for example in parent-teacher associations and school boards, to create an educational culture that is more mindful of Black students' needs (Abdul-Adil & Farmer, 2006); (b) exposing young Black children to educational and intellectual opportunities (Chaney, 2014; Reid, Golub, & Vazan, 2014); (c) serving as emotional pillars for Black students who are unsure about the value of education (Cokley et al., 2014; Davis, 2012; Durkee & Williams, 2015; Hunn, 2014; Theron, 2013); and (d) working within the community to try to spread pro-education values (Milner & Howard, 2004). The literature thus shows that Black parents have many domains for involvement, from trying to initiate social change in schools and communities to being full partners in their children's education. Therefore, the absence of a Black mother due to incarceration could be associated with negative outcomes for her child, to the extent that the mother's absence is correlated with the kinds of engagement discussed in this section of the literature review.

According to Abdul-Adil and Farmer (2006), Black parent involvement in elementary schools has historically been low because of three reasons: (a) black parents are not empowered by schools, (b) schools do not conduct consistent outreach that is catered to capture the interest and attention of Black parents, and (c) poor and failing schools do not generally prioritize parent outreach. Abdul-Adil and Farmer argued against what they called “urban legends of apathy” (Abdul-Adil & Farmer, 2006, p. 1) about Black parents of elementary school children and laid the blame instead on schools. The study presented support for the position that Black parents’ efforts are not always recognized and welcomed by schools, and that some schools are in such bad shape that there are little parents can do to redress the situation. More specifically, schools in urban areas do not seek the assistance of Black parents because the school staff do not see the value of parental involvement. However, Abdul-Adil and Farmer did not discuss the question of what Black families are doing at home. As Milner and Howard (2004) have argued, bad schools do not excuse Black parents’ neglects of home-bound involvement, such as reading to children, helping them with their homework, and providing the other kinds of intellectual and emotional support necessary for their academic advancement.

Some scholars have argued that the key independent variable is not race but poverty—which is an important insight, given that Black families are more likely to be poor. Statistically, poor Black people in America are more likely to be single parents, and numerous studies have found that the parent (or parent-partner dyad) in single-parent Black households has less time, energy, and willpower to devote to spending constructive time with children (Desmond, 2012). Poor Black parents are more likely to watch television with their child than to read together (Duncan,

Magnuson, Kalil, & Ziol-Guest, 2012). Poor Black parents are more likely to have had a substandard education, because of which they might struggle with tutoring or academically mentoring their children (Shuffelton, 2013). Poor Black women are more likely than poor White women to drink alcohol or abuse drugs while pregnant, behaviors that result in a lowering of the newborn baby's intelligence (Wilson, 2013). Poor Black parents lack the money to buy their children books and educational toys (Cancian & Haskins, 2014). Poor Black parents are also more depressed than wealthier parents, sometimes resulting in violence or neglect of their children (Duncan et al., 2012). The conclusion to be drawn from these data is that poverty, rather than race *per se*, might be what is most predictive of the quality of parental involvement in a child's life (Huang & Mason, 2008). In turn, outcomes of parenting within a poverty environment are correlated with the future delinquency and/or criminal behaviors of the child (Desmond, 2012; Dumont et al., 2013; Johnston, 2012; Ng et al., 2013; Turney & Wildeman, 2015a).

Trotman (2001) also argued that some of the differences in parental involvement between Black parents and non-Black parents are rooted in deficits related to resources: "some... parents may lack the knowledge and resources to assist their child with academic success" (p. 275). Thus, before Black parents can become more involved in the academic lives of their children, they need to be taught certain skills by schools themselves (Abdul-Adil & Farmer, 2006). The problem is that many schools that serve a predominantly Black student base are under budgetary pressures that preclude them from funding special parent outreach programs of the kind recommended by both Trotman (2001) and Abdul-Adil and Farmer (2006). One opportunity is for so-called early start or fresh start schools to conduct parental

outreach and training; thus, while Black children are being given a head start in school, Black parents can be trained in how to offer academic support to their children (Abdul-Adil & Farmer, 2006).

In their study on parents of elementary school children, Huang and Mason (2008) reached the conclusion that “Parents’ motivations to be involved in their children’s learning evolved in three themes: (a) parents need to develop relationships; (b) parents need to influence their children’s learning; and (c) education is the key for children to achieve success” (p. 56). Some Black parents seem to struggle with developing constructive relationships with schools and teachers, who are seen as hostile or indifferent representatives of an oppressive majority culture (Bobbitt-Zeher, 2004). Other Black parents struggle to become positive influences on their children’s learning, because they themselves lack the training to deliver tutoring and other forms of academic support to their children (Trotman, 2001). Finally, Bobbitt-Zeher argued that some Black cultures have become highly suspicious of all institutions perceived to be White, including schools, and that the community suffers from cynicism and indifference toward education.

Jarrett (1997) concluded that the so-called collective socialization theory threatens Black parental involvement in school-age children’s lives:

Inner-city neighborhoods lack middle-class residents who provide conventional role models and social control for poorer residents. Non-family adults who engage in ghetto-specific behaviors, such as crime, hustling, non-marital childbearing, and dropping out of school are the most significant role models in children’s lives. Through frequent exposure to unconventional

adults, children are encouraged to emulate alternative lifestyles as they mature.
(p. 277)

Black parents are not the sole role models to school-aged Black children in poor neighborhoods. According to Jarrett, Black parents in such neighborhoods must compete with other “unconventional adults” (p. 277) as appropriate role models for children. Even if a Black child has two highly involved parents, the fact of living in a ghetto creates a greater risk that such a child will be socialized into academically destructive behaviors. Jarrett concluded that Black parents who live in the ghetto must exert greater control over their children’s social environment than many Americans do. American parents in middle-class neighborhoods typically live with others who model similarly productive social and cultural values; thus, American parents need not worry as much as Black parents about the quality of their neighborhood as a possible contributory factor to their children’s negative socialization.

Black families also face significant socialization problems because of the prevalence of single-parent, particularly single-mother, families (Taylor, Larsen-Rife, Conger, Widaman, & Cutrona, 2010). Taylor et al. conducted a study demonstrating a negative correlation between single Black mothers’ life stressors and pessimism and their ability to impart “effective child management” (p. 468). The single Black mothers in Taylor et al.’s study reported high levels of pessimism and stress (of both an economic and emotional nature) and low levels of success at child management. Taylor et al. pointed out that effective child management, another term for parental involvement, is positively correlated with student achievement. Thus, there is a statistically significant connection between the unique stresses on single-parent Black

families, particularly those led by women, and the parental neglect of Black children's academic lives.

Jarrett (1997) argued that Black families, even single families, can become successfully involved in children's academic lives, but at a higher cost. In case of the single-mother families in Taylor et al.'s (2010) study, parental involvement was more difficult because of mothers' physical exhaustion, emotional stress, and the associated burdens of raising a child alone in a difficult environment. Jarrett's case study of successful single African mothers demonstrated that such mothers could become more academically involved in their children's lives by creating an alternate structure of socialization for their children. Successfully involved single Black mothers exerted more control over their children's exposure to bad role models and worked harder to create an alternative social structure in the home, for example by forging social links with other successful families.

Jarrett's (1997) work emphasized the importance of obviously maladaptive socialization. However, the quantitative study conducted by Lanza and Taylor (2010) lent support to the hypothesis that more subtle forms of parental socialization can also be responsible for the lower quantity and quality of Black parental involvement with school-aged children. Lanza and Taylor found that Black adolescents who had a more unpredictable family routine were more likely to engage in truancy and delinquent behaviors in school. Lanza and Taylor pointed out that poverty is highly correlated with unpredictability in family routines. In poor families, single-parent family structures, frequent firings and a higher level of job mobility within the household, and the necessity for the parent or parents to work longer hours to support the household exacerbates the already unpredictable family routine. Therefore, poverty is

a predictor of higher levels of family routine volatility, which is a predictor of delinquent behavior. Black parents who are mired in poverty might be socializing their children into disengagement and delinquency merely because of their poverty. This insight, according to Lanza and Taylor, can cause many Black parents to give up on the ideal of academically involved parenting, because they feel helpless to make a difference in their own children's lives.

Trotman argued that Black parents encounter numerous deficits in trying to provide academic support to their children (Trotman, 2001). The significance and characteristics of such deficits have been explored further in neighborhood resource theory. According to Jarrett, "impoverished Black neighborhoods have a limited supply of good quality child-serving institutions and facilities" (Jarrett, 1997, pp. 276-277). Jarrett argued that parental involvement occurs within a social and neighborhood context. Affluent neighborhoods, which are predominantly those neighborhoods inhabited by Americans, contain many "enriching educational, social, and cultural experiences that are characteristic of institutions and facilities" (Jarrett, 1997, p. 277). Jarrett concluded that American parental involvement begins earlier, and is more robust, than Black parental involvement because of so-called geographic determinism. Impoverished neighborhoods, according to Jarrett, render parental involvement more difficult because parents cannot introduce children to "a safe and nurturing social world" (Jarrett, 1997, p. 276). Poor Black neighborhoods are both unsafe and largely devoid of social enrichment and reinforcement.

Jarrett (1997) claimed that so called bad neighborhoods degrade Black parental involvement in school-age children's lives in two ways. First, bad neighborhoods do not reinforce educational opportunities; in such neighborhoods,

Black parents cannot take children to bookstores, libraries, or museums with the same convenience that American parents can, in their own neighborhoods. Because poor Black neighborhoods are educationally- and culturally barren landscapes, parents in such neighborhoods must work harder to create an enriching environment for their school-age children. Secondly, bad neighborhoods actively undo the academically enriching environment that Black parents attempt to create in their homes. The ever-present risks of crime and violence complicate Black parents' attempts to create a safe and enriching educational sphere for their children. Jarrett concluded that, because of the nature of many Black neighborhoods, Black parents must overcome significant difficulties to create an academically nurturing home environment.

Overview of Juvenile Delinquency

The catalog of crimes committed by juveniles in recent years is truly alarming. All across the world, children have been found guilty of committing grisly crimes. In 2007, three young boys from the Ukraine were found to have committed 21 murders for no purpose other than entertaining themselves and recording videos of their victims (Haber, 2015). In 1993, the two-year-old James Patrick Bulger of England was kidnapped, tortured, and killed by two ten-year-old boys (Levine, 1999). In 1999, Eric Harris and Dylan Klebold killed 13 people in what became known as the Columbine Massacre in Columbine, Colorado (Lickel, Schmader, & Hamilton, 2003).

The Columbine Massacre represented a watershed moment in juvenile crime in the United States, partly because it was the first juvenile-committed act of violence that was specifically conceived, and successful, as an act of terrorism (Lickel et al., 2003). Harris and Klebold had spent several months planning the attack, with which they intended to generate a body count in the hundreds, and which was to be followed

by a general attack on the citizens and police of Littleton, Colorado (Lickel et al., 2003). Some of the gun-related homicides before this point had escalated into terrorism once the gunmen had failed to get what they wanted (as in the 1995 Portland shootings) but were not explicitly planned as acts of terrorism. Additionally, Harris and Klebold's desire to kill everyone in the school, and as many people as possible in the city, represented a new level of bloodthirstiness in juvenile crime.

The question of juvenile crime and appropriate public policy responses has generated intense controversy in the United States. In the 2005, Supreme Court case of *Roper v. Simmons*, a five to four ruling held that executive juveniles (defined as those under 18) was a violation of the Eighth Amendment, which prohibits cruel and unusual punishment (Denno, 2006). In the 2010 case of *Graham v. Florida* and the 2012 case of *Miller v. Alabama*, the Supreme Court imposed further restrictions prohibiting mandatory life without parole sentences for juveniles. Thus, no matter what crime a juvenile now commits in the United States, he or she can neither be executed nor sentenced to life without parole.

Until the early 19th century, there was no legal policy that treated juvenile offenders differently from adult offenders. According to Duckworth, the standard practice until this era was that "children were shackled and thrown into goal" (Duckworth, 2002, p. x). There are many possible reasons that children began to be shielded from criminal culpability. Some scholars believe that it was only in the early 19th century that child morality lessened. In previous generations, people were accustomed to losing many of their children to early childhood diseases. As child mortality lessened, parents (and society itself) came to be more invested in the lives of individual children (Heywood, 2001). Psychologically speaking, it became easier for

parents to become concerned about children who were now statistically more likely to survive than to die; interestingly, before the 19th century, there was a practice among some parents to refer to a child as 'it' until the child reached a suitable age, when he or she was finally ascribed an identity (Stearns, 2010).

The first juvenile court established in the United States was in Cook County, Illinois, in 1899 (Tanenhaus, 2005). Thereafter, many states established their own juvenile court systems. At the root of the budding juvenile court system in the United States was the notion of diminished capacity. There was an assumption that juveniles were not comparable to adults in *mens rea* (guilty mind), even though they might commit the same *actus reus* (guilty act), and in that sentence juveniles deserved a lighter system of sentencing (Tanenhaus, 2005). The impulse behind the creation of juvenile justice systems coincided with the emerging doctrine of delinquency. Delinquency theorists held that adults were ultimately responsible for the moral compass of children, and that delinquent children were therefore less culpable for crime because their actions reflected the absence of good social guidance rather than the exercise of a will to crime (Tanenhaus, 2005).

Faced with the reality of juvenile crime, one of the key concerns in policy is how to sentence juvenile criminals. Supporters of these adult sentencing for juveniles versus softer sentencing for juveniles are often far apart in their notions of justice, punishment, and appropriate policy. However, both those who support sentencing juveniles as adults and those who propose a parallel juvenile justice system are largely agreed that the primary goal of juvenile sentencing is to reduce the incidence of crime, particularly violent crime (Varma, 2002). There are two ways in which the incidence of crime is reduced by the criminal and juvenile justice systems. In the short

term, the incarceration of offenders guarantees that they cannot commit crimes in society (although, technically, they can continue to commit crimes while behind bars). In the longer term, the rehabilitation of offenders guarantees that criminals released back into society will not once again engage in criminal behaviors. The problem is that incarceration does not guarantee rehabilitation (Esherick, 2006). Thus, while incarceration solves the short-term problem of isolating criminals from society, it does not necessarily address the long-term problem of altering the criminal's lifelong behavior (Esherick, 2006).

It is for this reason that, since the beginning of penology as a science, scholars have argued for the necessity of addressing rehabilitation in tandem with incarceration (Esherick, 2006). To be sure, the concept of rehabilitation does not apply in all cases. For example, criminals sentenced to death or life imprisonment do not pose any problems related to rehabilitation. Rehabilitation is an issue for the offenders who are likely to return to society. If these offenders are not rehabilitated, they will return to crime—perhaps even to worse kinds of crime than those for which they were originally sentenced, especially if they have become initiated to the culture of violence that exists in many prisons (Esherick, 2006).

Juvenile crime is especially problematic when examined through the viewpoints of both incarceration and rehabilitation. First, in statistical terms, juveniles are likely to live longer than adult offenders. Juveniles who pass through the adult criminal justice system are thus more likely to spend several years in society, years that can either be spent in committing further crimes or in contributing positively to society. Second, juveniles are—in many ways—psychologically distinct from adults

and are therefore likely to learn and behave in different ways in response to what they experience in the adult criminal justice system (Esherick, 2006).

In the United States, there is some evidence that the rehabilitative model for juveniles works as long as the model is neither too soft nor too punitive. In Missouri, for example, there is a mere 8% recidivism rate among juveniles sent to rehabilitation facilities (McElfresh, Yan, & Janku, 2009), whereas the recidivism rate for juveniles incarcerated along with adults has been observed to be closer to 50% in states such as New York (Esherick, 2006). However, the current data do not allow firm conclusions to be drawn about violent crime. Rehabilitation should certainly be an option for youth, as it is for adults, if the crimes in question are not violent; there is widespread agreement, both in the public and among scholars, on that point (Esherick, 2006). The most difficult question, and the one that is currently impossible to answer in the United States, is that of how well rehabilitation works on juvenile violent criminals. Currently, violent criminals (whether juveniles or adults) are more likely to be put into prison, with the main distinction being that juvenile violent offenders cannot be sentenced to death or life without parole. In order to empirically test the effectiveness of rehabilitation versus incarceration, an experiment would be necessary; violent juvenile offenders would have to be randomly sorted into a control versus experimental group, with one group assigned to rehabilitation and another to incarceration. Until such data are obtained, there is no way in which to argue that either rehabilitation or incarceration is better from the purely policy-oriented perspective of reducing recidivism. Consequently, it is not possible to argue for softer juvenile sentencing purely based on age.

Summary and Conclusion

The literature shows that maternal incarceration, as a special instance of maternal absence, can influence the development of delinquent and/or criminal behaviors in the child of the incarcerated mother through the mechanisms of attachment, engagement, strain, and social cognition. The gap in the literature addressed by the current study is the absence of knowledge about how maternal incarceration status predicts the delinquent behaviors of children of incarcerated mothers. Chapter 3 contains a description and defense of a study methodology designed to measure the effect of maternal incarceration on juvenile delinquency, and, in so doing, to address the literature gaps and measure the importance of maternal attachment as discussed in Chapter 2.

Chapter 3: Research Method

Introduction

The research problem that I addressed in this study was that the association between maternal incarceration and the subsequent development of delinquency in the child has been imperfectly and incompletely measured in the literature, as concluded by Turney and Wildeman (2012). My purposes in this quantitative, correlational study were (a) to determine whether there is a positive correlation between maternal incarceration and juvenile delinquency in the behavior of the incarcerated mother's child, and (b) to identify the covariates that are most likely to influence the relationship between maternal incarceration and juvenile delinquency, as a means of informing public policy and practice.

My purpose in this chapter is to describe and defend the research design and methodology proposed to achieve my purposes in the study, with a specific focus on research design and rationale, population, sampling, data access, instrument and constructs, threats to validity, and ethical procedures. The major sections of this chapter are research design and rationale, the role of the researcher, the methodology that was used for this research, issues of trustworthiness, and the summary of Chapter 3. Chapter 3 contains a description and defense of a study methodology designed to measure the effect of maternal incarceration on juvenile delinquency, and, in so doing, to address the literature gaps and measure the importance of maternal attachment as discussed in Chapter 2.

Research Design and Rationale

The research design and rationale contain five research questions. Each of these questions are listed and discussed in more detail. The research questions and

hypotheses of the study are as follows:

RQ1: Is there a significant relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?

H1₀: There is not a significant relationship between maternal incarceration and the existence of delinquent behavior of their children.

H1_A: There is a significant relationship between maternal incarceration and the existence of delinquent behavior of their children.

RQ2: Does the child's gender mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?

H2₀: The child's gender does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

H2_A: The child's gender mediates the relationship between maternal incarceration and the existence of delinquent behavior of their children.

RQ3: Does the child's race mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?

H3₀: The child's race does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

H3_A: The child's race mediates the relationship between maternal incarceration and the existence of delinquent behavior of their children.

RQ4: Does the quality of a child's current relationship with the primary caregiver mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?

H4₀: The quality of a child's current relationship with the primary caregiver does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

H4_A: The quality of a child's current relationship with the primary caregiver mediates the relationship between maternal incarceration and the existence of delinquent behavior of their children.

RQ5: Does the child's disciplinary environment mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?

H5₀: The quality of a child's current disciplinary environment does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

H5_A: The quality of a child's current disciplinary environment mediates the relationship between maternal incarceration and the existence of delinquent behavior of their children.

The research design for the study was quantitative. I chose a quantitative methodology because the identified gap in the literature was the absence of empirical knowledge about how well maternal incarceration predicts juvenile delinquency in younger children. Prediction is normally associated with the use of statistical, and therefore quantitative, methods (Box, Jenkins, & Reinsel, 2011). I used the regression models to examine the relationship between incarceration and a number of child and family outcomes, with controls for parents' background characteristics. A regression analysis was used to assess if attachment patterns collectively and uniquely predict negative behaviors such as juvenile delinquency. I examined whether earlier

attachment predicts social anxiety dimensions after controlling for concurrent attachment.

I used three sets of regression models. In Model 1, I controlled only for the family structure and stability categories. Model 2 included additional controls for a commonly used set of demographic characteristics such as the gender of the child, the race and ethnicity of the mother, the mother's education, and the mother's age. Model 3 adds further controlled for possible mediating variables that might help explain the links between family structure and stability and child outcomes. There were no controls for all the possible mediators of interest, but the research included controls for several important ones, such as mother's income, involvement, parenting quality, and maternal depression. I used the FFCWS database because it contains data that is pre-existing and the research questions for this study can be answered from the pre-existing database. I present further detail regarding the dataset next.

Role of Researcher

A researcher must make sure their personal bias does not affect their research. In order to prevent personal biases, a researcher should only report the information exactly the way that it was presented. I examined whether earlier attachment predicts social anxiety dimensions after controlling for concurrent attachment. I do not have a personal or professional relationship with any of the Families First participants or the researchers and individuals who conducted the Families First study.

Methodology

The discussion of methodology contains details on population, sampling, archival data access, instrument and constructs, threats to validity, and ethical procedures. I discuss each of these areas under a separate heading.

Population

Faculty at Princeton and Columbia Universities compiled the FFCWS (Princeton, 2014) which contains data on nearly 5,000 children of unmarried families. Fragile families drew its sample from interviews with both mothers and fathers at the birth of their child and again at ages one, three, five, nine, and fifteen. Research personnel associated with the FFCWS dataset conducted interviews with the unmarried parents of children born in large urban centers in the United States between 1998 and 2000; then, from 2007 to 2009, researchers interviewed the children themselves. In the first wave (1998-2000), researchers asked about the incarceration status of both mothers and fathers. In the second wave (2007-2009), researchers asked children about their own delinquency. The FFCWS thus included data that allow predictions of childhood delinquency behaviors to be made from maternal incarceration status. Moreover, because the FFCWS included demographic data on both children and families, the dataset can be used to generate predictions of delinquency behavior that incorporate covariates related to gender, race, and many other factors. Although the FFCWS has been utilized by many empirical researchers in many contexts, it has never been used to predict childhood delinquency from maternal incarceration.

The population for the study consisted of (a) incarcerated mothers and (b) the children of these incarcerated mothers. The population for the study was limited by the sample collected in the FFCWS dataset. I drew the sample through purposive sampling of families likely to meet government services in numerous large American cities. The study's funding enabled both academic researchers and government

employees to identify and recruit participants into the sample. The characteristics of the sample are described below.

Sampling

I drew the sample from the pre-existing FFCWS dataset, which includes data on 5,000 children born in the United States between 1998 and 2000 and their mothers. The FFCWS dataset was sampled from large urban centers in the United States. The data included interviews with mothers at the time their children were born and again when children were ages one, three, five and nine. I used all the data in the FFCWS dataset, therefore the sample size for this study was 5,000 adults. For a two-tailed independent samples *t*-test, which was one of the statistical procedures in the study, inputting an alpha of 0.05 and a power of 0.95 yielded a recommended sample of 176 (Cohen, 2013).

Instrument and Constructs

The sole instrument for this study was the FFCWS dataset. This dataset provided all the variables for the study. I describe all the variables below in Table 3. For RQs 1-5, the dependent variable consisted of delinquent behaviors and the independent variable consists of maternal incarceration. In RQ2, the mediating variable was the gender of the child. In RQ3, the mediating variable was the race of the child. In RQ4, the mediating variable was the quality of a child's current relationship with the primary caregiver. In RQ5, the mediating variable was the child's disciplinary environment. Note that, in this dataset, the code "DK" means that the participant did not answer a question, while the code "REF" means that data were not collected for that question. Thus, the numerical values for these codes should not be considered when constructing index values. Tables 3 below depicts the variables

and measurement type. Figures 1 through 3 provide information as to how the scales were created.

Table 3

Variables and Measurements

Variable	Measurement
Maternal incarceration (independent variable)	0 = mother not incarcerated in 1998-2000 1 = mother incarcerated in 1998-2000
Juvenile delinquency (dependent variable)	Continuous scale from 0-17
Parental relationship quality (covariate)	Continuous scale from 0-27
Disciplinary environment (covariate)	Continuous scale from 0-16
Race of the child (covariate)	0 = Non-Black 1 = Black
Gender of the child (covariate)	0 = Male 1 = Female

Table 4

Research Questions

-
- RQ1: Is there a significant relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?
- RQ2: Does the child's gender mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?
- RQ3: Does the child's race mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?
- RQ4: Does the quality of a child's current relationship with the primary caregiver mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?
- RQ5: Does the child's disciplinary environment mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?
-

In this dataset, variables are operationalized as follows:

Maternal incarceration: Whether the child's mother was incarcerated in 1998-2000.

Juvenile delinquency: Although there are some behaviors that are not classified, according to the legal definition of juvenile delinquent, as juvenile delinquent behavior (such as cheating on tests), they were included in the measurement of total juvenile delinquency in this study, operationalized as the total index score on responses to the following seventeen questions:

		YES	NO	REF	DK
F1A.	Purposely damaged or destroyed property that wasn't yours?	1	2	-1	-2
F1B.	Taken or stolen something that didn't belong to you from another person or from a store?	1	2	-1	-2
F1C.	Taken some money at home that did not belong to you, like from your mothers' purse or from your parents' dresser?	1	2	-1	-2
F1D.	Cheated on a school test?	1	2	-1	-2
F1E.	Had a fist fight with another person?	1	2	-1	-2
F1F.	Hurt an animal on purpose?	1	2	-1	-2
F1G.	Gone into somebody's garden, backyard, house or garage when you were not supposed to be there?	1	2	-1	-2
F1H.	Run away from home?.....	1	2	-1	-2
F1I.	Skipped school without an excuse?.....	1	2	-1	-2
F1J.	Secretly taken a sip of wine, beer, or liquor?	1	2	-1	-2
F1K.	Smoked marijuana, grass, pot, weed?	1	2	-1	-2
F1L.	Smoked a cigarette or used tobacco?	1	2	-1	-2
F1M.	Been suspended or expelled from school?	1	2	-1	-2
F1N.	Written things or sprayed paint on walls or sidewalks or cars?	1	2	-1	-2
F1O.	Purposely set fire to a building, a car, or other property or tried to do so?	1	2	-1	-2
F1P.	Avoided paying for things such as movies, bus or subway rides, or food?	1	2	-1	-2
F1Q.	Thrown rocks or bottles at people or cars?	1	2	-1	-2

Figure 1. Fragile Families delinquency questions.

Race: Race of the child. In keeping with the Chapter 2 discussion of the unique challenges faced by Black students, I coded this variable as a dummy variable, with 0 = Non-Black, 1 = Black.

Gender: Gender of the child. I coded this variable as a dummy variable, with 0 = Male, 1 = Female.

Parental relationship quality: This variable measured the quality of the child's relationship with parents, on the basis of the following questions:

		NEVER	SOMETIMES/ NOT VERY OFTEN	OFTEN	ALWAYS	REF	DK
A1A.	Know what you do during your free time? Would you say that this statement is never true, sometimes true, often true, or always true?	0	1	2	3	-1	-2
A1B.	Know which friends you hang out with during your free time?...	0	1	2	3	-1	-2
A1C.	Ask you about things that happened when you are not with (her/him)?	0	1	2	3	-1	-2
A1D.	Make you tell (her/him) where you are going and with whom before you go out?	0	1	2	3	-1	-2
A1E.	Know what you spend money on?	0	1	2	3	-1	-2

		NEVER	SOMETIMES/ NOT VERY OFTEN	OFTEN	ALWAYS	REF	DK
A2A.	Talk over important decisions with you? Would you say that this statement is never true, sometimes true, often true, or always true?	0	1	2	3	-1	-2
A2B.	Listen to your side of an argument?	0	1	2	3	-1	-2
A2C.	Spend enough time with you?	0	1	2	3	-1	-2
A2D.	Miss events or activities that are important to you?	0	1	2	3	-1	-2

Figure 2. Parental relationship quality questions.

Disciplinary environment questions: This variable measured the quality of the child's disciplinary environment, on the basis of the following questions:

	EVERY/ ALMOST EVERY DAY	FEW TIMES/ WEEK	ONCE OR A FEW TIMES/ MONTH	LESS THAN ONCE/MONTH	NEVER	REF	DK
B1A. Explained why something you did was wrong? Would you say she did that every day or almost every day; a few times a week; once or a few times a month; less than once a month or never?.....	4	3	2	1	0	-1	-2
B1B. Sent you to your room, took away privileges or grounded you?	4	3	2	1	0	-1	-2
B1C. Shouted, yelled, screamed, swore or cursed at you?	4	3	2	1	0	-1	-2
B1D. Spanked or hit you?	4	3	2	1	0	-1	-2

Figure 3. Disciplinary environment questions.

Thus, maternal incarceration, gender, and race were all dichotomous, dummy variables, whereas juvenile delinquency, parental relationship quality, and disciplinary environment were all continuous variables measured at the interval level of measurement based on the responses received. Because there were 17 questions related to juvenile delinquency, with an answer of ‘yes’ coded as 1 and an answer of ‘no’ coded as 0, the index value for juvenile delinquency can vary from 0 to 17. Parental relationship quality was also an index variable; this variable was measured through the answers to nine questions, with the answers ranging from 0 (minimum quality) to 3 (maximum quality) for each question. Hence, the possible range of values for parental relationship quality was from 0 to 27 (a score of 27 indicates a better parental relationship). There were four questions related to disciplinary environment, with the range of each question being from 0 to 4; thus, the minimum possible disciplinary environment score is 0, and the maximum possible disciplinary environment score was 16.

Archival Data Access

Access to the FFCWS dataset has two levels. Public access is provided to core data; access to medical data requires a more involved application process. For this study, the public access data were sufficient. Public access data was requested by (a)

registering with the FFCWS research initiative at Princeton University and (b) downloading the data once registration was approved. The process of registration is automatic; ordinarily, one business day is needed to process registration. Once registration was approved, I requested core data in SPSS format.

Data Analysis Plan

There were five research questions in the study. In this section, an analysis plan is presented for each research question. The analysis plans contain (a) a connection of the data to a specific research question, (b) a discussion of the type and procedure of coding, (c) a discussion of the software used for analysis, and (d) the treatment of discrepant cases.

The first research question of the study was as follows: RQ1 - Is there a significant relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother? The data for RQ1 were from the independent variable of maternal incarceration and the dependent variable of delinquency score. The coding used for the independent variable was dichotomous, with the two possible values being 0 = not incarcerated and 1 = incarcerated. The coding used for the dependent variable was continuous, represented by the juvenile delinquency score (see Table 3 and the preceding discussion for a description of how the juvenile delinquency score is coded). I could answer this research question by conducting an independent samples *t* test with the independent variable being maternal incarceration status and the dependent variable being delinquency score. If the *p* value of this procedure is < 0.05 , the null hypothesis will be rejected, and it will be concluded that there is a significant relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother. I

used SPSS software for the analysis. As every data value count in an independent samples *t* test (Box et al., 2011), no discrepant cases existed for RQ1.

RQ2 - The second research question of the study was as follows: Does the child's gender mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother? I answered this research question by conducting an analysis of covariance (ANCOVA) with the predictor variable being maternal incarceration, the dependent variable being delinquency score, and the covariate being gender. The data for RQ2 were from the independent variable of maternal incarceration and the dependent variable of delinquency score. The coding used for the independent variable is dichotomous, with the two possible values being 0 = not incarcerated and 1 = incarcerated. The coding used for the dependent variable was continuous, represented by the juvenile delinquency score (see Table 3 and the preceding discussion for a description of how the juvenile delinquency score is coded). The coding for the covariate of gender was dichotomous, with 0 = male, 1 = female. I rejected the null hypothesis if the inclusion of gender as a random effect altered the significance and/or the Beta coefficient value of maternal incarceration, and it will be concluded that the child's gender mediates the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother. I used SPSS software for the analysis. As every data value count in an ANCOVA (Box et al., 2011), no discrepant cases existed for RQ2.

RQ3 - The third research question of the study was as follows: Does the child's race mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother? I answered this

research question by conducting an analysis of covariance with the predictor variable being maternal incarceration, the dependent variable being delinquency score, and the covariate being race. The data for RQ3 were from the independent variable of maternal incarceration and the dependent variable of delinquency score. The coding used for the independent variable was dichotomous, with the two possible values being 0 = not incarcerated and 1 = incarcerated. The coding used for the dependent variable was continuous, represented by the juvenile delinquency score (see Table 3 and the preceding discussion for a description of how the juvenile delinquency score is coded). The coding for the covariate of race was dichotomous, with 0 = Non-Black, 1 = Black. I rejected the null hypothesis if the inclusion of race as a random effect altered the significance and/or the Beta coefficient value of maternal incarceration, and it will be concluded that the child's race mediates the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother. I used SPSS software for the analysis. As every data value count in an ANCOVA (Box et al., 2011), no discrepant cases existed for RQ3.

RQ4 - The fourth research question of the study was as follows: Does the quality of a child's current relationship with the primary caregiver mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother? I answered this research question by conducting an analysis of covariance with the predictor variable being maternal incarceration, the dependent variable being delinquency score, and the covariate being parental relationship score. The data for RQ4 were from the independent variable of maternal incarceration and the dependent variable of delinquency score. The coding used for the independent variable was dichotomous, with the two possible values

being 0 = not incarcerated and 1 = incarcerated. The coding used for the dependent variable is continuous, represented by the juvenile delinquency score (see Table 3 and the preceding discussion for a description of how the juvenile delinquency score was coded). There was a continuous coding for the covariate of parental quality. If the inclusion of parental relationship score as a random effect altered the significance and/or the Beta coefficient value of maternal incarceration, then the null hypothesis will be rejected, and it will be concluded that the child's parental relationship score mediates the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother. I used SPSS software for the analysis. As every data value count in an ANCOVA (Box et al., 2011), no discrepant cases existed for RQ4.

RQ5 - The fifth research question of the study was as follows: Does the child's disciplinary environment mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother? I answered this research question by conducting an analysis of covariance with the predictor variable being maternal incarceration, the dependent variable being delinquency score, and the covariate being disciplinary environment score. The data for RQ5 were from the independent variable of maternal incarceration and the dependent variable of delinquency score. The coding used for the independent variable is dichotomous, with the two possible values being 0 = not incarcerated and 1 = incarcerated. The coding used for the dependent variable was continuous, represented by the juvenile delinquency score (see Table 3 and the preceding discussion for a description of how the juvenile delinquency score was coded). The coding for the covariate of disciplinary environment was continuous. If the inclusion

of disciplinary environment score as a random effect altered the significance and/or the Beta coefficient value of maternal incarceration, then the null hypothesis will be rejected, and it will be concluded that the child's disciplinary environment mediates the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother. I used SPSS software for the analysis. As every data value count in an ANCOVA (Box et al., 2011), no discrepant cases existed for RQ5.

Issues of Trustworthiness

The FFCWS dataset contained questions designed to measure the quality of the child's relationship with his or her parental caregiver(s) and the nature of the child's disciplinary environment. Cronbach's alpha or other psychometric values were not available, which could represent a possible threat to the internal validity of studies that draw upon data from the FFCWS dataset. One of the innate limitations of working with the existing data in the FFCWS dataset was reliance on the underlying validity of the questionnaires used in the dataset. In terms of external validity, the main threat was that the assumptions of the underlying statistical procedures might not be met in terms of sample size and other assumptions. I addressed this threat through post hoc power size calculation and the use of diagnostics presented in Chapter 4.

Ethical Procedures

This study utilized an archival database and there were no new data collected. The archival database contained individual-level data; however, all data were de-identified to align with standards of ethical data collection practice. Thus, only de-

identified data were used for this study. Approval from the Walden University Institutional Review Board was still sought and obtained.

Summary

The purpose of this chapter of the dissertation was to describe and defend the research design and methodology proposed to achieve the purposes of the study, with a focus on research design and rationale, population, sampling, data access, instrument and constructs, threats to validity, and ethical procedures. I proposed a quantitative method and correlational design to close the gap in the literature pertaining to the absence of empirical models that can predict delinquency outcomes from maternal incarceration. I proposed independent samples *t* tests and analysis of covariance as statistical tests capable of closing this gap when applied to existing data from the FFCWS dataset.

Chapter 4: Results

Introduction

I used the FFCWS in this study to predict childhood delinquency from maternal incarceration. The problem that I addressed was that the association between maternal incarceration and the subsequent development of delinquency in the child has been imperfectly and incompletely measured in the literature. Researchers needed additional research to determine whether the young children of incarcerated mothers are more at risk for delinquency and to predict (based on demographic and other factors) which children of incarcerated mothers are most at risk for delinquency.

My purposes in this quantitative study were to (a) determine whether there was a positive correlation between maternal incarceration and juvenile delinquency, and (b) to identify the covariates that are most likely to influence the relationship between maternal incarceration and juvenile delinquency. The following research questions were addressed:

RQ1: Is there a significant relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?

H1₀: There is not a significant relationship between maternal incarceration and the existence of delinquent behavior of their children.

H1_A: There is a significant relationship between maternal incarceration and the existence of delinquent behavior of their children.

RQ2: Does the child's gender mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?

H2₀: The child's gender does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

H2_A: The child's gender mediates the relationship between maternal incarceration and the existence of delinquent behavior of their children.

RQ3: Does the child's race mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?

H3₀: The child's race does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

H3_A: The child's race mediates the relationship between maternal incarceration and the existence of delinquent behavior of their children.

RQ4: Does the quality of a child's current relationship with the primary caregiver mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?

H4₀: The quality of a child's current relationship with the primary caregiver does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

H4_A: The quality of a child's current relationship with the primary caregiver mediates the relationship between maternal incarceration and the existence of delinquent behavior of their children.

RQ5: Does the child's disciplinary environment mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?

H5₀: The quality of a child's current disciplinary environment does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

H5_A: The quality of a child's current disciplinary environment mediates the relationship between maternal incarceration and the existence of delinquent behavior of their children.

I conducted an independent *t* test for Research Question 1, and multiple linear regression was conducted for Research Questions 2 through 5. What follows is a discussion about the sample and setting of the study. I present baseline descriptive and demographic characteristics of the sample as well as testing of parametric assumptions. I present the results of hypothesis testing for each respective research. I conclude the chapter with a summary of the findings.

Setting

The study was based on the FFCWS dataset. The study was delimited to the individuals interviewed in the FFCWS dataset. The data in this dataset were procured from individuals in families in which the mother and father were not married at the initial time of interview, and from individuals in large urban settings, both of which delimit the findings of the study further. Faculty conducted the FFCWS's first wave on families in which a child was born between 1998 and 2000, and the second wave (from 2007-2009) measured outcomes among these children when they were around 9 years old. The specific longitudinal research design of the study meant that biological mothers who were incarcerated at the time of the first wave would not have had much time in their children's lives—anywhere from a few days to approximately a year and

a half. As such, the FFCWS was not designed to measure the effects of a biological mother being around for a long time and then departing.

Demographics

The FFCWS, conducted by faculty at Princeton and Columbia Universities, contains data on nearly 5,000 children of unmarried families (Princeton, 2014). The FFCWS drew its sample from interviews with both mothers and fathers at the birth of their child and again at ages 1, 3, 5, 9, and 15 years. Research personnel associated with the FFCWS dataset conducted interviews with the unmarried parents of children born in large urban centers in the United States. Out of $N = 4,898$ mothers, only 541 reported their incarceration history. Between the years 1998 and 2000, 311 (57.5%) were incarcerated and 230 (42.5%) were not. Most mothers were Black (47.6%). This was followed by Hispanic (27.3%); White (21.1%); and 4.0% other race. The distributions of male and female children were similar (52.2% males and 47.8% females). Most children were Black (51.9%), followed by Hispanic (26.9%); White (18.8%); and another race (2.3%). Tables 5 through 8 depict this information.

Table 5

Was Mother Incarcerated? (N = 4,898)

	Frequency	Percent	Valid percent	
Valid	.00	230	4.7	42.5
	1.00	311	6.3	57.5
	Total	541	11.0	100.0
Missing	System	4357	89.0	
Total	4,898	100.0		

Table 6

Mother's Race (N = 4,898)

	Frequency	Percent	Valid percent	
White		1030	21.0	21.1
Black		2326	47.5	47.6
Hispanic		1336	27.3	27.3
Other		194	4.0	4.0
Total		4886	99.8	100.0
Missing		12	.2	
Total		12	.2	
Total	4,898	100.0		

Table 7

Race of the Child (N = 4,898)

	Frequency	Percent	Valid percent	
White		776	15.8	18.8
Black		2146	43.8	51.9
Hispanic		1113	22.7	26.9
Other		96	2.0	2.3
Total		4131	84.3	100.0
Missing		767	15.7	
Total	4,898	100.0		

Table 8

Child's Gender (N = 4,898)

	Frequency	Percent	Valid percent	Cumulative percent	
Boy		2556	52.2	52.2	52.2
Girl		2341	47.8	47.8	100.0
Total		4897	100.0	100.0	
Missing		1	.0		
Total	4,898	100.0			

Descriptive Statistics of Study Variables

Table 9, below, depicts a summary of the study variables investigated in this analysis. There was a total of 4,898 participants; however, there were participants that did not provide information for some demographic variables. Maternal incarceration between 1998-2000, race of child, and gender of child are dichotomous variables. Juvenile delinquency is a continuous variable ranging from 0-17 with higher values indicating more incidences of delinquency. Parental relationship quality ranges from 0-27, and disciplinary environment ranges from 0 – 16. Descriptive statistics for delinquency ($M = 1.25$, $SD = 1.77$), parental relationship ($M = 17.89$, $SD = 4.22$), and disciplinary environment ($M = 6.16$, $SD = 3.39$) appear below in Table 10. The mean delinquency and disciplinary environment values seem to indicate low occurrences of each, as measured by their respective scales.

Table 9

Variables and Measurements

Variable	Measurement
Maternal incarceration (independent variable)	0 = mother not incarcerated in 1998-2000 1 = mother incarcerated in 1998-2000
Juvenile delinquency (dependent variable)	Continuous scale from 0-17
Parental relationship quality (covariate)	Continuous scale from 0-27
Disciplinary environment (covariate)	Continuous scale from 0-16
Race of the child (covariate)	0 = Non-Black 1 = Black
Gender of the child (covariate)	0 = Male 1 = Female

Table 10

Descriptive Statistics

	Minimum	Maximum	Mean	Standard deviation
Delinquency	.00	17.00	1.25	1.77
Parental relationship	.00	27.00	17.87	4.22
Disciplinary environment	.00	16.00	6.16	3.39

Delinquency by race of child appears in Table 11. I found the greatest mean delinquency in the Black, non-Hispanic category ($M = 1.59$, $SD = 1.92$). This was followed by Hispanic ($M = 0.76$, $SD = 1.48$); White/non-Hispanic ($M = 0.98$, $SD = 1.58$); and other race ($M = 0.59$, $SD = 1.35$). See Table 12 for a depiction of juvenile delinquency by child gender. Boys have a greater mean delinquency score ($M = 1.60$, $SD = 1.99$) than girls ($M = 0.87$, $SD = 1.42$). Juvenile delinquency by mother incarceration status is depicted in Table 13. Children with mothers that were incarcerated between 1998 and 2000 had a greater mean juvenile delinquency score

($M = 1.69$, $SD = 2.03$) than those children with mothers that were not incarcerated ($M = 1.37$, $SD = 2.03$).

Table 11

Delinquency by Child's Race

Race child	Minimum	Maximum	Mean	Standard deviation	
White		.00	9.00	.98	1.58
Black		.00	13.00	1.59	1.92
Hispanic		.00	17.00	.76	1.48
Other		.00	5.00	.59	1.14

Table 12

Delinquency by Child's Gender

Child sex	Minimum	Maximum	Mean	Standard deviation	
Boy		.00	17.00	1.60	1.98
Girl		.00	11.00	.87	1.42

Table 13

Delinquency by Mother Incarceration

Was mother incarcerated	N	Minimum	Maximum	Mean	Standard deviation	
Not incarcerated	180	.00	9.00	1.37	1.83	
Incarcerated	239	.00	12.00	1.69	2.03	

Data Collection

The sample was drawn from the pre-existing FFCWS dataset, which included data on 5,000 children born in the United States between 1998 and 2000 and their mothers. Faculty from Princeton and Colombia universities sampled the FFCWS

dataset from large urban centers in the United States. The data included interviews with mothers at the time their children were born and again when children were ages one, three, five and nine. I used all the data in the FFCWS dataset, therefore the sample size for this study was 5,0004,898 adults.

Data Analysis

An independent t test was conducted for Research Question 1, and multiple linear regression was conducted for Research Questions 2 through 5. I performed parametric testing in order to test the assumptions of each respective statistical test.

Testing of Parametric Assumptions

I analyzed the data prior to conducting statistical analysis in order to assess normality. Normality was assessed by calculating skewness and kurtosis (Table 14). Both skewness and kurtosis values were deemed acceptable, as skewness was within the threshold of ± 3 and kurtosis did not exceed 10.

Table 14

Skewness and Kurtosis of Study Variables

Variable	Skewness	Kurtosis
Delinquency	2.296	7.683
Parent relationship	-.548	.315
Disciplinary environment	.333	-.274

In order to conduct an independent t test (RQ1), the assumption of equality of variances should be met. A non-significant Levene's test for equality of variances indicated no violation of the assumption, $F(417) = 2.606$, $p = 0.107$, thus concluding that the variances of the delinquency scores of both groups of mothers (incarcerated / not incarcerated) are equal.

Research Questions 2 through 5 involved employing multiple regression. The assumptions of multiple regression include normality of residuals, homoscedasticity, linearity, absence of multicollinearity, and independence of observations. I assessed the assumptions of normality of residuals and homoscedasticity were by visual inspection of a scatter plot of the predicted and actual standardized residuals (Figure 4). The apparent random dispersion of data points revealed no noticeable pattern, thus supporting the assumptions of normality and homoscedasticity.

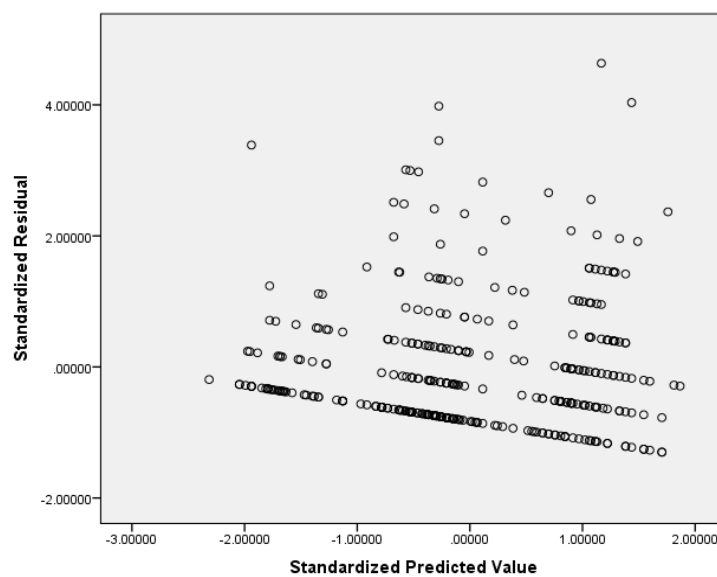


Figure 4. Scatter plot of standardized predicted values and standardized residuals.

I assessed linearity between the dependent variable, juvenile delinquency, and the continuous independent variables, parental relationship and disciplinary environment by visual inspection of scatter plots (Figures 5 and 6). There was an approximate linear relationship between the variables.

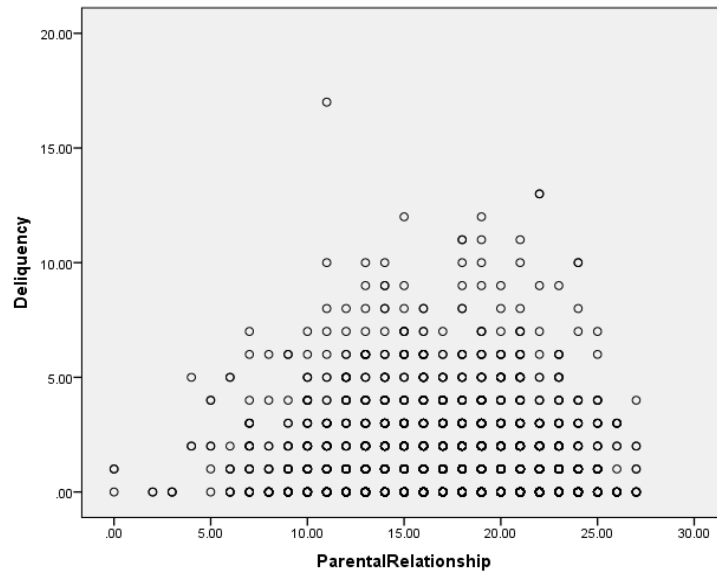


Figure 5. Scatter plot of parental relationship and juvenile delinquency.

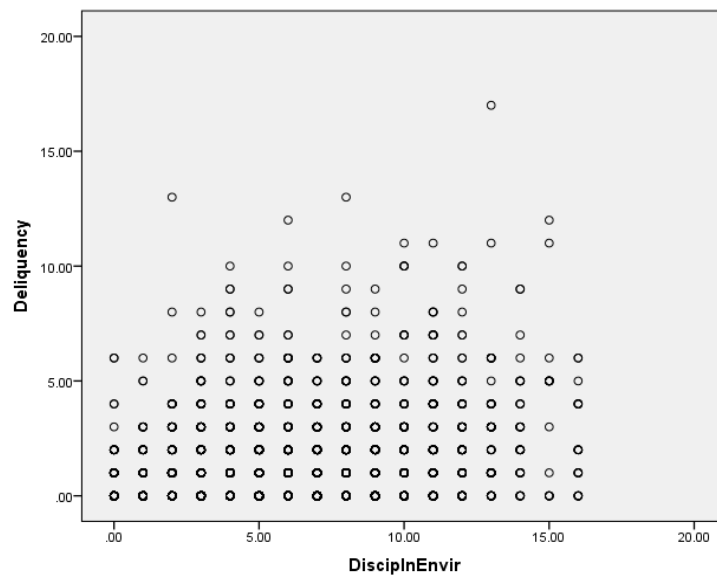


Figure 6. Scatter plot of disciplinary environment and juvenile delinquency.

I examined multicollinearity by inspection of variance inflation factors (VIFs). There were no VIFs that exceeded five, thus no issues with multicollinearity. Lastly, I assessed independence of observations by the Durbin-Watson statistic. The Durbin-Watson statistic can range from 0 to 4, however a value of approximately 2 indicates that there is no correlation between residuals. The Durbin-Watson statistic was

approximately 2, indicating independence of observations. What now follows are the results of the analysis for each respective research question and corresponding hypotheses.

Evidence of Trustworthiness

The FFCWS dataset contained questions designed to measure the quality of the child's relationship with his or her parental caregiver(s) and the nature of the child's disciplinary environment. No Cronbach's alpha or other psychometric values were available, which could represent a possible threat to the internal validity of studies that draw upon data from the FFCWS dataset. One of the innate limitations of working with the existing data in the FFCWS dataset was reliance on the underlying validity of the questionnaires used in the dataset. In terms of external validity, the main threat was that the assumptions of the underlying statistical procedures might not be met in terms of sample size and other assumptions.

Results

An independent t test was conducted in order to answer and test the first research question and hypothesis:

RQ1: Is there a significant relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?

H_{10} : There is not a significant relationship between maternal incarceration and the existence of delinquent behavior of their children.

H_{1A} : There is a significant relationship between maternal incarceration and the existence of delinquent behavior of their children.

Table 15 below depicts the results of the independent t test conducted for Research Question 1. The results of the independent t test were not significant at the

5% level, $t(417) = -1.658, p = .098$. It should be noted that that the mean difference in juvenile delinquency was significant at the 10% level. At the 5% level of significance, the first null hypothesis cannot be rejected and conclude that there is not a significant relationship between maternal incarceration and the existence of delinquent behavior of their children.

Table 15

Independent Samples Test for Equality of Means (RQ1)

<i>t</i>	df	P	Mean difference	Standard error difference	95% Confidence interval of the difference	
					Lower	Upper
-1.658	417	.098		-.32	.19	-.70 .06

Multiple linear regression was conducted in order to answer and test the second research question and hypothesis:

RQ2: Does the child's gender mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?

H_{20} : The child's gender does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

H_{2A} : The child's gender mediates the relationship between maternal incarceration and the existence of delinquent behavior of their children.

In order to test for a mediating effect, first the relationship between maternal incarceration and the existence of delinquent behaviors must be established. This model was significant at the 10% level, $F(1, 417) = 2.748, p = .090$. Table 16 depicts this information below.

Table 16

ANOVA

Sum of squares	df	Mean square	F	P-value	
Regression	10.393	1	10.393	2.748	.090
Residual	1577.149	417	3.782		
Total	1587.542	418			

Additionally, incarceration resulted in an average increase in delinquency ($B = 0.318$, $p = .098$). Table 17 below provides this information.

Table 17

Coefficients

Unstandardized coefficients	Standardized coefficients	t	P-value		
B	Std. error	Beta			
(Constant)	1.372	.145		9.467	.000
Was mother incarcerated	.318	.192	.081	1.658	.098

Incarceration resulted in an average increase in delinquency ($B = 0.318$, $p = .098$). Next, the relationship between child's gender and maternal incarceration must be assessed. The relationship, however, was not found to be significant, $p = .646$, as determined by a Chi-square test for association, $\chi^2(1) = 0.210$, $p = .646$. Table 18 depicts this information.

Table 18

Chi-Square Test Depicting the Relationship Between Child's Gender and Maternal Incarceration

Value	df	P
.210 ^a	1	.646

Since the possible mediator, child's gender, is not significantly associated with the independent variable maternal incarceration, there cannot possibly be a mediating effect. I accepted the second null hypothesis and the conclusion is that the child's gender does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

I conducted multiple linear regression in order to answer and test the third research question and hypothesis:

RQ3: Does the child's race mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?

H_{3_0} : The child's race does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

H_{3_A} : The child's race mediates the relationship between maternal incarceration and the existence of delinquent behavior of their children.

The relationship between maternal incarceration and the existence of delinquent behaviors was previously established. Incarceration resulted in an average increase in delinquency ($B = 0.318, p = .098$). Next, I assessed the relationship between child's race and maternal incarceration. The relationship, however, was not found to be significant, $p = .244$, as determined by a Chi-square test for association, $\chi^2(3) = 4.164, p = .244$. Table 19 depicts this information.

Table 19

Chi-Square Test Depicting the Relationship Between the Child's Race and Maternal Incarceration

	Value	df	P-value
Pearson Chi-Square	4.164 ^a	3	.244

Since the possible mediator child's race is not significantly associated with the independent variable maternal incarceration, there cannot possibly be a mediating effect. Thus, I accepted the third null hypothesis and concluded that the child's race does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

Multiple linear regression was conducted in order to answer and test the fourth research question and hypothesis:

RQ4: Does the quality of a child's current relationship with the primary caregiver mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?

H4₀: The quality of a child's current relationship with the primary caregiver does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

H4_A: The quality of a child's current relationship with the primary caregiver mediates the relationship between maternal incarceration and the existence of delinquent behavior of their children.

The relationship between maternal incarceration and the existence of delinquent behaviors was previously established. Incarceration resulted in an average increase in delinquency ($B = 0.318, p = .098$). Next, I assessed the relationship between child's current relationship with the primary caregiver and maternal incarceration. The relationship, however, was not found to be significant, $p = 0.523$, as determined by multiple regression. Table 20 provides this information below.

Table 20

Coefficients for RQ4

Unstandardized coefficients	Standardized coefficients	<i>t</i>	P-value		
B	Standard error	Beta			
(Constant)	16.878	.342	49.417	.000	
Was mother incarcerated	.289	.452	.031	.639	.523

Since the possible mediator, child's current relationship with the primary caregiver, is not significantly associated with the independent variable maternal incarceration, there cannot possibly be a mediating effect. Thus, the fourth null hypothesis is accepted and the conclusion is that the quality of a child's current relationship with the primary caregiver does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

Multiple linear regression was conducted in order to answer and test the fifth research question and hypothesis:

RQ5: Does the child's disciplinary environment mediate the relationship between maternal incarceration and the existence of delinquent behaviors in the child of an incarcerated mother?

H5₀: The quality of a child's current disciplinary environment does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

H5_A: The quality of a child's current disciplinary environment mediates the relationship between maternal incarceration and the existence of delinquent behavior of their children.

The relationship between maternal incarceration and the existence of delinquent behaviors was previously established. Incarceration resulted in an average increase in delinquency ($B = 0.318, p = .098$). Next, I assessed the relationship between child's current disciplinary environment and maternal incarceration. The relationship, however, was not found to be significant, $p = 0.500$, as determined by multiple regression. Table 21 provides this information below.

Table 21

Coefficients Table for RQ5

Unstandardized coefficients	Standardized coefficients	<i>t</i>	P-value		
B	Standard error	Beta			
(Constant)	6.640	.263	25.232		.000
Was mother incarcerated	-.234	.347	-.034	-.675	.500

Since the possible mediator child's current disciplinary environment is not significantly associated with the independent variable maternal incarceration, there cannot possibly be a mediating effect. Thus, I accepted the fifth null hypothesis and the conclusion is that the quality of a child's current disciplinary environment does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

Associations Between Study Variables

Additionally, there were significant relationships between parental relationship and delinquency ($p < .001$); Child's sex and delinquency ($p < .001$); disciplinary environment and delinquency ($p < .001$); disciplinary environment and parental relationship ($p = .017$); Child sex and parental relationship ($p < .001$); and Child sex

and disciplinary environment ($p < .001$). Table 15 below depicts this information below.

Table 22

Pearson Correlations of Study Variables

		1	2	3	4	5
Delinquency (1)	r	1	.255**	.081	-.123**	-.205**
	p		.000	.098	.000	.000
	N	3344	3267	419	3344	3344
Disciplinary environment (2)	r	.255**	1	-.034	-.042*	-.091**
	p	.000		.500	.017	.000
	N	3267	3282	404	3282	3282
Mother incarceration (3)	r	.081	-.034	1	.031	.020
	p	.098	.500		.523	.647
	N	419	404	541	420	541
Parental relationship (4)	r	-.123**	-.042*	.031	1	.089**
	p	.000	.017	.523		.000
	N	3344	3282	420	3365	3365
Child sex (5)	r	-.205**	-.091**	.020	.089**	1
	p	.000	.000	.647	.000	
	N	3344	3282	541	3365	4897

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Summary

I used independent t tests and multiple regression in order to test the following five null hypotheses.

H_{10} : There is not a significant relationship between maternal incarceration and the existence of delinquent behavior of their children.

H_{20} : The child's gender does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

H_{30} : The child's race does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

H4: The quality of a child's current relationship with the primary caregiver does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

H5: The quality of a child's current disciplinary environment does not mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children.

At the 5% level of significance, the first null hypothesis could not be rejected, and I concluded that there was no significant relationship between maternal incarceration and the existence of delinquent behavior of their children. It should be noted that the relationship was significant at the 10% level. In Research Questions 2 through 5, I performed multiple regression. Child's gender, child's race, quality of a child's current relationship with the primary caregiver, and quality of a child's current disciplinary environment were not significantly associated with mother incarceration, thus no mediating effects were found.

What follows next in Chapter 5 is a discussion of this study's findings and how it relates to similar studies detailed in the literature review. A discussion of the study's limitations and recommendations for further research are provided. The chapter concludes with a summary of the chapter.

Chapter 5 Discussion, Conclusions, and Recommendations

Introduction

My purposes in this quantitative, correlational study were to (a) determine whether there is a positive correlation between maternal incarceration and juvenile delinquency, and (b) identify the covariates that are most likely to influence the relationship between maternal incarceration and juvenile delinquency. Purpose (b) was related to forecasting, whereas purpose (a) is a measurement of correlation. These purposes were achieved through the application of an independent samples *t* test and the analysis of variance. The following research questions and hypotheses were addressed:

RQ1: Is there a significant relationship between maternal incarceration and the existence of delinquent behavior of their children?

RQ2: Does the child's gender mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children?

RQ3: Does the child's race mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children?

RQ4: Does the quality of a child's current relationship with the primary caregiver mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children?

RQ5: Does the quality of a child's current disciplinary environment mediate the relationship between maternal incarceration and the existence of delinquent behavior of their children?

This study was quantitative and correlational in nature, in which I used an existing dataset from the FFCWS. I measured the following variables: characteristics

of maternal incarceration, delinquent behaviors, race, parental relationship quality, and disciplinary environment. The research problem that I addressed in this study was that the association between maternal incarceration and the subsequent development of delinquency in the child has been imperfectly and incompletely measured in the literature.

The following hypotheses were tested:

H1_A: There is a significant relationship between maternal incarceration and the existence of delinquent behavior of their children

H2_A: The child's gender mediates the relationship between maternal incarceration and the existence of delinquent behavior of their children

H3_A: The child's race mediates the relationship between maternal incarceration and the existence of delinquent behavior of their children.

H4_A: The quality of a child's current relationship with the primary caregiver mediates the relationship between maternal incarceration and the existence of delinquent behavior of their children.

H5_A: The quality of a child's current disciplinary environment mediates the relationship between maternal incarceration and the existence of delinquent behavior of their children.

I conducted an independent *t* test for Research Question 1, and multiple linear regression for Research Questions 2 through 5. At the 5% level of significance, the first null hypothesis could not be rejected, and I concluded that there was no significant relationship between maternal incarceration and the existence of delinquent behavior of their children. The first null hypothesis tested indicated that the relationship between maternal incarceration and the existence of delinquent

behavior of their children was significant at the 0.10 level ($p = .098$). It should be noted that the relationship was significant at the 10% level. In Research Questions 2 through 5, I performed multiple regression. I found that a child's gender, child's race, quality of a child's current relationship with the primary caregiver, and quality of a child's current disciplinary environment were not significantly associated with mother incarceration, thus no mediating effects.

I begin Chapter 5 with an introductory section which reiterates the purpose, nature of, and the reason for the study as well as a summary of key findings. Next, in the interpretation of findings section, there is a discussion of how the findings confirm, disconfirm, or extend knowledge by comparing them with what has been found in the peer-reviewed literature described in Chapter 2. This is followed by a description of the limitations of the study regarding generalizability, validity, and reliability that arose from execution of the study, recommendations for further research, and implications of the potential effect for positive social change. The chapter ends with a conclusion.

Interpretation of the Findings

The findings about the first research question regarding the relationship between maternal incarceration and the existence of delinquent behavior of their children was a little surprising. The association between maternal incarceration and the subsequent development of delinquency in the child has been imperfectly and incompletely measured in the literature, as concluded by Turney and Wildeman (2012). Past researchers have determined that children with incarcerated parents are more likely to be themselves juvenile delinquents. According to Smith and Farrington (2004), mothers with a criminal history have children that are 48.6% more likely to

experience behavioral problems through adulthood in early childhood. Martin et al. (2008) found traumatic experiences during childhood to be the main feature among incarcerated juvenile offenders. The fact that I did not find a significant relationship between maternal incarceration and behavior of their children at the 5% level was surprising; however, the fact that it was significant at the 10% level may suggest the need to reexamine this relationship in a future study.

The findings regarding the second research question that explores child's gender mediating the relationship between maternal incarceration and the existence of delinquent behavior of their children was surprising. It could be that maternal incarceration adversely affects both boys and girls, but their ways of expressing their reactions may differ. Boys are more likely to have outsourcing behavioral problems, while girls are more likely to have internalizing problems (Narusyte, Ropponen, Alexanderson, & Svedberg, 2017). Additional research is needed to determine whether the young children of incarcerated mothers are more at risk for delinquency, and to predict, based on demographic and other factors, which children of incarcerated mothers are most at risk for delinquency.

The findings of Research Question 3 regarding the child's race mediating the relationship between maternal incarceration and the existence of delinquent behavior of their children was interesting. Past studies have indicated that Black Americans are imprisoned at rates disproportionate to their overall population representation (Matthews et al., 2013). The typical Black family is struggling to address many factors affecting every family member, and it is evident that Black children's needs are very complex (Cokley et al., 2014; Davis, 2012; Durkee & Williams, 2015; Hunn, 2014; Theron, 2013). Incarcerated Black mothers are no longer available to engage in

the kinds of academic commitment that have been shown to keep Black children away from criminal and criminal behavior. In addition, studies have suggested that African American youth have similar rates of juvenile delinquency as Whites and that a large proportion of African American youth are less likely than Whites to engage in juvenile delinquent behaviors that leads to committing serious crime (Agnew, 2015). This is the case, despite the fact that African American youth are much more likely than White youth to be exposed to many of the major causes of crime, including discrimination, poverty and residence in the world (Agnew, 2015). In this current study, however, I found no significant associations between mother's incarceration, ethnicity of child, and juvenile delinquency.

The fourth research question findings were interesting regarding the quality of a child's current relationship with the primary caregiver mediating the relationship between maternal incarceration and the existence of delinquent behavior of their children. Parental relationship quality in this study was measured operationally in terms of questions posed to children in the FFCWS, which centered on parental engagement. Examples of parent's engagement include creating space to do schoolwork, checking homework, attending meetings, and otherwise becoming a participant in a child's academic and social life. Engagement is driven by (a) how effective the parent believes his or her engagement to be (expectancy); and (b) how much he or she wants to achieve an outcome such as improved academic performance for the child (valence). Parental engagement is often understood in terms of ensuring children's academic success, which is highly correlated with an absence of delinquent and criminal behaviors (Lanza & Taylor, 2010). Although I found a significant negative correlation between parental engagement and delinquent behavior, I did not

find a mediating effect of parental engagement between maternal incarceration and delinquent behavior. The results suggest that children are more likely to express juvenile delinquent behavior more frequently when parents are less engaged in parental monitoring and involvement than when they are more engaged.

The findings of the fifth research question regarding the quality of a child's current disciplinary environment mediating the relationship between maternal incarceration and the existence of delinquent behavior of their children was interesting. I did find a strong correlation between disciplinary environment and juvenile delinquency; however, the relationship between juvenile delinquency and maternal incarceration was not mediated by disciplinary environment.

Overall, the findings showed support for past findings with regard to the relationship between child's gender, race, parental relationship, disciplinary environment, and maternal incarceration. There was a significant (at the 10% level) relationship between maternal incarceration and child delinquency ($p = .098$). In addition, there were significant relationships between parental relationship and delinquency; child's sex and delinquency; disciplinary environment and delinquency; disciplinary environment and parental relationship; child sex and parental relationship; and child sex and disciplinary environment. Table 23 depicts these relationships.

Table 23

Pearson Correlations of Study Variables

	1	1	2	3	4	5
Delinquency (1)	r	1	.255**	.081	-.123**	-.205**
	p		.000	.098	.000	.000
	N	3344	3267	419	3344	3344
Disciplinary environment (2)	r	.255**	1	-.034	-.042*	-.091**
	p	.000		.500	.017	.000
	N	3267	3282	404	3282	3282
Mother incarceration (3)	r	.081	-.034	1	.031	.020
	p	.098	.500		.523	.647
	N	419	404	541	420	541
Parental relationship (4)	r	-.123**	-.042*	.031	1	.089**
	p	.000	.017	.523		.000
	N	3344	3282	420	3365	3365
Child sex (5)	r	-.205**	-.091**	.020	.089**	1
	p	.000	.000	.647	.000	
	N	3344	3282	541	3365	4897

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

This study did not, however, find any mediating effects of the previously mentioned covariates. Researchers need additional research to determine whether the young children of incarcerated mothers are more at risk for delinquency, and to predict (based on demographic and other factors) which children of incarcerated mothers are most at risk for delinquency. Further study into these relationships are warranted due to the lacking number of studies that investigate these relationships.

Limitations of the Study

Since the study was restricted to only included specific variables of the FFCWS dataset, not including other unforeseen confounding variables limited the study. The study was also limited in that, as a quantitative study, it was impossible for me to determine the reasons for any observed relationship between maternal

incarceration and juvenile delinquency. Qualitative studies are based on human experiences and observations, and do not ignore the “gut” instinct. Qualitative methods embrace descriptions, and the data from such studies are usually more suited to exploring and describing. Another limitation of the study involves the duration of the relationship between maternal incarceration and subsequent child outcomes.

The primary disadvantage of using longitudinal research studies is that the changes of unpredictable results are increased by long term research. If it is not possible to find the same people for an update of the study, the research will stop. The FFCWS’s first wave was conducted on families in which a child was born between 1998 and 2000, and the second wave (from 2007-2009) measured outcomes among these children when they were around nine years of age. An additional wave of data collection was conducted from 2014 to 2017. The specific longitudinal research design of the study meant that biological mothers who were incarcerated at the time of the first wave would not have had much time in their children’s lives-anywhere from a few days to a year and a half. As such, the FFCWS was not designed to measure the effects of a biological mother being around for a long time and then departing.

The FFCWS dataset contained questions designed to measure the quality of the child’s relationship with his or her parental caregiver(s) and the nature of the child’s disciplinary environment. No Cronbach’s alpha or other psychometric values were available, which could represent a possible threat to the internal validity of studies that draw upon data from the FFCWS dataset. reliance on the underlying validity of the questionnaires used in the dataset was one of the innate limitations of working with the existing data in the FFCWS dataset. In terms of external validity, the main threat was that the assumptions of the underlying statistical procedures might

not be met in terms of sample size and other assumptions. However, the sample size was more than adequate for the study and all assumptions of parametric testing were met. Additionally, since this was a non-experimental study, no cause and effect relationship could be established.

Recommendations

One recommendation for a future study involves conducting a mixed-methods study. Quantitative research tends to be research that is assessed through questionnaires and surveys. This type of research also tends to be numerical. In quantitative research, the information collected through various means while conducting the research is quantified to make it more meaningful. By contrast, the qualitative approach is suited to gathering exploratory, descriptive data. Additionally, qualitative data deal with perceptions and opinions and a future study also could investigate participant attitudes and opinion individual. Thus, a mixed method approach could have the potential of discovering the reasons for any observed relationship between maternal incarceration and juvenile delinquency.

Another recommendation is to use cross-sectional data. Cross-sectional study is used to capture data collected for a specific time point. The collected data comes from a pool of participants with varied characteristics and demographics. The variables used in a single study, or demographics, are based on the type of research being conducted and what the study is intended to prove or validate. The findings of the research help to remove assumptions and replace them with actual data on the specific variables studied in the cross-sectional study during the time period. Since the data is from one point in time, the issues of correlated data and participant drop out are significantly reduced.

The addition of other covariates in the analysis as possible confounders should be introduced in future studies, such as socioeconomic status. Some scholars have argued that the key independent variable is not race, but poverty—which is an important insight—given that Black families are more likely to be poor. Statistically, poor Black people in America are more likely to be single parents, and numerous studies have found that the parent (or parent-partner dyad) in single-parent Black households has less time, energy, and willpower to devote to spending constructive time with children.

Lastly, the reliability and the validity of the questionnaires should be measured. Reliability measures such as Cronbach's alpha should be calculated in order to determine if the items are measuring the same construct. The validity of the questionnaire should be examined by comparing the items that measure a particular construct to another tool that measures that same construct which has been previously validated and conduct correlations. Content validity and construct validity should also be examined.

Implications

No existing empirical studies have measured the correlation between maternal incarceration and acts of juvenile delinquency, though maternal incarceration remains a potential predictor of more serious kinds of delinquency and crime. The study's main significance is the ability of young children to correlate maternal incarceration with delinquency behaviors, contributing to the limited body of empirical knowledge on the relationship between maternal incarceration and delinquency/crime in the incarcerated mother's child. The second significance of the study lies in its use of statistical methods to more accurately estimate the contribution to the relationship

between maternal incarceration and childhood delinquency of factors such as gender, race, current parental relationship quality, and current disciplinary environment.

The lack of research on these topics makes it difficult for school psychologists, principals, and juvenile justice personnel to better allocate their limited resources toward children who are at special risk for delinquency. This research assists practitioners in determining if children of incarcerated mothers are influenced so that they can fine-tune their programs around their limited resources. State legislatures are able to utilize the research to determine if there is a need to allocate funds for further research and/or programs for families. Additionally, this study also has implications for decision-making in corrections.

Conclusion

Incarceration rates in the United States have risen rapidly during the past several decades and, while more men are incarcerated than women, in recent years incarceration rates for women have risen faster than for men. In the wake of rising women's incarceration rates, scholars and policy makers are interested in how and why maternal incarceration might influence developmental outcomes for incarcerated mother's children. There has been ongoing disagreement in the quantitative literature about the correlative dynamics of maternal imprisonment and child outcomes (Johnston, 2012; Ng et al., 2013). However, both quantitatively and qualitatively oriented researchers have reached consensus on the negative effect of maternal incarceration on some children.

The purposes of this quantitative, correlational study were to determine whether there was a positive correlation between maternal incarceration and juvenile delinquency, and to identify the covariates that are most likely to influence the

relationship between maternal incarceration and juvenile delinquency. Policy makers may use the results of this study to inform and generate the best policy. Officials for correction, welfare services, and family-support agencies may need to develop policies to allow incarcerated mothers and their children to maintain regular contact. The focus of this study is to relate the independent variable of maternal incarceration to the dependent variables, address a gap in the literature, determine the need for delinquency-related public policy, and assist state legislatures, practitioners, and policy makers in fine-tuning their budgets with limited resources.

Although this study did not uncover any mediating effects of gender, parental relationship, and disciplinary environment on the relationship between maternal incarceration and juvenile delinquency, it did uncover several significant correlations between the study variables. Additional research into these relationships would benefit society as a whole with further understanding of these relationships. The long-term positive implication for reduced juvenile delinquency is the increase in good productive citizens, stronger family structures, and communities that will begin to thrive versus continual deterioration.

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