

AN ABSTRACT OF THE THESIS OF

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U.S. incarceration rates have soared over the past three decades and the demographic characteristics of those who end up in prison are a reflection of the nation's structural inequality. Incarcerated fathers are a socially disadvantaged group and spending time in prison compounds already significant risk factors that these men experienced throughout their lives. In addition, it increases the risk that their children will suffer from the intergenerational transmission of social inequality. While studies indicate that maintaining contact between incarcerated fathers and their children has the potential to benefit them both and improve a variety of outcomes, there is limited research on the factors that impact incarcerated father-child contact. Based on the ecological model and the cumulative risk framework, this thesis attempts to help fill this gap in the current literature by examining whether an incarcerated father's cumulative risk factors impact the frequency of contact he has with his children. Using a nationally representative data set of men in state prisons and a negative binomial regression analysis, this study found that number of childhood risk experiences was a significant predictor of an incarcerated father's contact with his children. In addition, minority status moderated the relationship

between childhood risk and frequency of visits, with an increased effect of risk on father-child contact for African American and Hispanic men. While the quadratic term of Risk² was not significant, disproving the hypothesis that there is a non-linear relationship between risk and contact, a visual representation of the distribution showed that contact between fathers and their children dropped substantially for men with the highest number of risk factors. This study provides valuable information about the relationship between the childhood experiences of incarcerated fathers and their subsequent social ties. The knowledge that childhood risk impacts frequency of father-child contact has the potential to inform interventions aimed at improving outcomes for these at-risk families.

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Childhood Risk as a Predictor of Frequency of Contact between Incarcerated Fathers and
Their Children

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I understand that my thesis will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my thesis to any reader upon request.

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Childhood Risk as a Predictor of Frequency of Contact between Incarcerated Fathers and Their Children

Skyrocketing incarceration rates over the last three decades have served to powerfully reinforce the structural inequality that is a persistent component of the American social fabric. Black children are the most likely to live in poverty, perform lower than their grade level in school, and be placed in foster care. Compounding this childhood disadvantage, an African American boy born in 2001 has a 1 in 3 chance of being incarcerated during his lifetime, compared to a 1 in 6 chance for a Latino boy and a 1 in 17 chance for a white boy (Children's Defense Fund, 2007). For this reason, prison has been described as a "major stratifying institution" in contemporary American society (Wakefield & Uggen, 2010). The fact that incarceration is much more likely to occur to those who are already socially disadvantaged, coupled with parents' unique capacity to confer risk to their children, means that the mass incarceration of already vulnerable parents increases the likelihood of an intergenerational transmission of social inequality to their children (Western & Pettit, 2010). The plight of these children must be addressed in order to avoid the reinforcement of institutionalized racism.

This high incarceration rate (Raphael & Stoll, 2009), combined with the fact that the majority of released prisoners recidivate (Langan & Levin, 2002), can fracture already fragile families. In response, researchers have focused attention on the impact of parental incarceration on children (Dyer, Pleck, & McBride, 2012). Although most of the emphasis has been on the children of incarcerated mothers (Mazza, 2002), a few studies have focused on the children of incarcerated fathers. After all, over half of the men held

in state and federal prisons have at least one child under the age of 18 (Glaze & Maruschak, 2008) and there is a significant body of research that confirms the negative effects of father absence on child development (Lamb, 2010). There is also research that specifically points to the negative effects on a variety of developmental domains for children with a father in prison (Lanier, 2003). This research finds that children of criminally involved fathers often suffer poor outcomes (Johnson, 2009; Murray, 2010), some of which are due to pre-existing risk factors (Johnston, 2006; Wakefield & Uggem, 2010) and others that are correlated to the singular experience of losing a father to prison (Arditti, in press; Lowenstein, 1986). In addition, incarcerated fathers are likely to have experienced cumulative lifetime risk factors (Carlson & McLanahan, 2002; Johnson & Waldfogel, 2004), suffer from the stigmatization of criminal involvement (Arditti, 2003), and recidivate (Maruschak, Glaze, & Mumola, 2010), all of which ultimately affects their children.

An inmate's childhood experiences cannot be separated from the adult man he has become. Studies indicate that psychosocial risk experiences in childhood are associated with antisocial behavior (Aguilar, Sroufe, Egeland, & Carlson, 2000) and the development of conduct disorders (Rutter, Giller, & Hagell, 1998). Individuals who experience one type of risk factor are likely to experience others as well and an accumulation of stressful experiences in childhood increases the likelihood of poor developmental outcomes (Rutter, 1979). Part of this relationship between emotional disturbances in childhood and negative life experiences in adulthood is believed to be due

to negative chain reactions whereby an at-risk individual's behavior and actions increase the chances that they will experience additional adversity (Rutter, 2001).

Understanding an inmate's childhood risk experiences, especially in the context of his family of origin, is vital to any study of an incarcerated father's relationship with his own children. Research indicates that an individual's family relationships can create intergenerational risk that affects his or her children. Adult males who had poor quality relationships with their mothers during childhood experienced higher rates of psychological problems in adulthood; they also formed less nurturing relationships with their own children, which in turn increased the children's behavioral problems (Brook, Whiteman, & Zheng, 2002). Among non-resident fathers, individual and childhood risk factors have been shown to influence a man's involvement with his children, with additive risk negatively related to paternal involvement (Fagan & Palkovitz, 2007). Research aimed at better understanding the poor outcomes for children of incarcerated fathers must look back to the previous generation in order to expose the ways that a father's childhood experiences impact his current behaviors and relationships.

Some argue that criminally involved fathers should not be allowed to see their children and it is possible that such contact may, in fact, be harmful for children in certain circumstances (Eddy & Reid, 2003). However, studies indicate that regular father-child contact is generally beneficial and can actually mitigate some of the risk factors these vulnerable children experience (Hairston, 2007; Johnston, 1995b). Research suggests that this contact decreases the strain of separation for both father and child, strengthens the family bond, increases a father's commitment to his children post-release, and reduces

recidivism (Bahr, Armstrong, Gibbs, Harris, & Fisher, 2005; Bernstein, 2005; Visher & Travis, 2003). Although frequency of contact does not necessarily indicate the quality of their relationship, the evidence does suggest that contact alone has the potential to positively affect the trajectories of at-risk children and fathers. However, little is known about the factors that influence this contact.

The current study aims to fill this gap in the research. Using a large, representative data set of fathers in state prisons across the U.S., this study is based on the ecological theoretical framework that situates human development in the context of an individual's relationships and environment (Bronfenbrenner, 1979). More specifically, it examines incarcerated father-child contact through the lens of cumulative risk.

Identifying whether childhood risk experiences, especially those that existed within his family of origin, shape an incarcerated father's relationship with his children is the central goal of this study. In particular, this thesis answers the following three research questions: 1) Do an inmate's cumulative childhood risk experiences predict the frequency of contact he has with his children?; 2) Do an inmate's individual characteristics, such as race and education, interact with childhood risk to impact the frequency of father-child contact?; and 3) Is there a threshold for childhood risk experiences whereby a specific number of risks dramatically reduces how frequently an incarcerated father has contact with his children? Starting from the foundation of research that indicates contact between incarcerated fathers and their children has the potential to benefit them both, this study expands on the existing literature and examines whether an inmate's cumulative childhood risk experiences predict the frequency of incarcerated father-child contact.

Chapter 2: Literature Review

When a parent goes to prison it usually harms his or her children (Johnson, 2009). While more studies are needed on how ongoing contact between incarcerated parents and children might mitigate some of the damage caused by the experience (Poehlmann & Eddy, 2010), it is important to be clear from the outset that this study is limited by its focus only on fathers. The reasons for this choice are twofold. First, most of the recent research about the impact of parental incarceration on children has focused exclusively on mothers (Mazza, 2002). In addition, researchers argue that children have qualitatively different relationships with mothers than fathers and therefore the impact of parental incarceration on children will likely differ depending on which parent goes to prison (Kielty, 2006). By only examining father data, nothing can be inferred about how childhood risk affects incarcerated mothers' contact with their children from this thesis, although this is an important area for future research. While the current study is limited in scope, it will help fill a gap in the existing research on paternal incarceration and child contact.

To provide a framework for this study's analysis of the predictors of contact between incarcerated fathers and their children, this section will provide: 1) a general description of ecological theory, with an emphasis on both the risk and resilience framework and cumulative risk, and the relevance of these theoretical perspectives to the research model; 2) an overview of the current incarceration rates in the United States; 3) discussion of the impact of parental incarceration on children; 4) research on how non-resident and incarcerated father-child contact affects child outcomes and father well-

being; 5) information on how incarcerated fathers compare to other non-resident fathers; 6) an examination of the various ways that childhood risk experiences affect developmental outcomes; 7) a discussion of how an inmate's individual characteristics, as well as those of his children, along with the inmate's pre-incarceration family commitment might influence father-child contact; and 8) the current study's research hypotheses.

Theoretical Perspectives

Ecological model. The incarcerated father depends on others to facilitate contact with his children, but this contact is also predicated on his desire to be involved. More specifically, a father's decision to be in contact with his children is a function of his personal development and the frequency of their contact is a function of the family group, as well as the constraints of the prison system. All of these factors can be examined from an ecological theoretical perspective. Bronfenbrenner's (1979) ecological model defines development, within an individual or a group, as a mutual accommodation between the individual(s) and the changing properties of their environment, which exists in four levels. The levels of context are as follows: the microsystem, which is defined as a person's immediate setting and close relationships; the mesosystem or system of microsystems that interact to affect development; the exosystem, which includes larger social contexts and community factors; and the macrosystem, or the overarching institutions and cultural systems that influence development (Bronfenbrenner, 2005). The ecological model considers proximal processes to be those that interact directly with the

individual in their immediate environment, such as the family, and argues that they are the primary forces on the developmental process (Bronfenbrenner, 2005).

Parke's (1996) theoretical framework is similar to the ecological model but specifically addresses fatherhood. This perspective argues that there are various factors, at multiple levels of influence, that determine father involvement; these include individual factors, such as the gender of the child and the age of the father, family influences including the father's relationship with the child's mother and his own family of origin, and larger forces such as criminal justice policies, social supports and cultural influences (Modecki & Wilson, 2009; Parke, 1996). Both the ecological model and Parke's fatherhood framework inform the current research model that the inmate's family of origin, individual, child, and pre-incarceration family factors are all likely to impact the frequency of contact between incarcerated fathers and their children.

Risk and resilience. Families and community institutions function to regulate social interactions in an individual's life; although they vary considerably by type or structure, these systems have ways of operating that shape a child's development, the activities they participate in, and the resources that are available in their lives (Fraser, 2004). Fraser, Kirby, and Smokowski (2004), define contextual effects as those environmental factors that impact an individual's vulnerability or resilience; a child's social context can expose him to harmful experiences which create poor social functioning or it can lead to high functioning through exposure to a supportive, nurturing environment. In this way, childhood experiences can be considered sources of either risk or resilience.

The concept of risk is based on the understanding that certain experiences, psychological characteristics, and social factors will increase an individual's likelihood of poor outcomes in a variety of domains, i.e. behavior, health, academic achievement, and emotional well-being (Rutter, 1979). Resilience, on the opposite end of the continuum, is used to describe the strengths or protective factors that are either inherent in the individual or are derived from their environment which allow them to achieve good outcomes despite adversity (Fraser, 2004; Masten & Powell, 2003; Richman & Fraser, 2001; Rutter, 1979). Like risk factors, these protective factors include individual characteristics, family factors, and environmental influences (Fraser, 2004). The risk and resilience framework fits into ecological theory because an individual's experiences are nested within the context of the family, community, and larger social systems that are both affected by and affect the individual (Fraser & Richman, 1999).

The term "risk" is used to explain the fact that people with similar characteristics are more likely than others in the general population to develop a specific condition or problem (Fraser & Richman, 1999). Technically, it describes the likelihood of a particular outcome given a specific condition (Fraser & Richman, 1999); in the social sciences, risk factors are predictive and are expressed as probabilities of future outcomes (Fraser, 2004). While risk factors can come from any ecological level, it is believed that more distal risk influences are mediated by the proximal family processes (McLoyd, 1998). For example, living in a high-poverty neighborhood with few job opportunities may increase maternal stress and family conflict, which would directly impact the developmental trajectory for a child in that family. In addition, there are a variety of

individual, family, and larger social experiences that affect a number of different disorders at the same time and are therefore considered “nonspecific” risks because they increase an individual’s risk for an assortment of negative outcomes (Fraser & Richman, 1999).

Frequently, risk is framed as stemming from a child’s family environment, but research finds that the peer group is also influential (Rutter, 2001). Not only can social experiences contribute to risk, but so can personal characteristics. Studies indicate that risk factors often vary by individuals’ race or ethnicity, both in terms of the types of risk experiences and the mean numbers of risk factors (Fraser & Richman, 1999; Hummer & Hamilton, 2010; Kaushal & Nepomnyaschy, 2009). For individuals who experience an identical risk factor, the probability of a specific poor outcome can also vary depending on the individual’s gender or age (Fraser, 2004).

There is incredible variability in children’s responses to adversity; some children who experience risk will develop poor outcomes and others will not (Fraser, Kirby, & Smokowski, 2004). Part of this inter-individual variation in response to adversity or stress results from an individual’s inherent vulnerability or sensitivity (Rutter, 2001). At the same time, it is also important to consider an individual’s own contribution to their developmental outcomes. Risk experiences can be defined as either “nonindependent” events that result from an individual’s behavior or “independent” events that occur to an individual beyond their control (Masten & Powell, 2003). Research indicates that the rates of nonindependent risk events increase with a child’s age and suggests that

maladapted young people contribute to their own adversity at higher rates than their more socially competent peers, leading to additive risk (Gest, Reed, & Masten, 1999).

Cumulative risk. The cumulative risk model argues that an increased number of risk factors is associated with an increased likelihood of poor outcomes (Campbell, 2005; Fraser & Richman, 1999; Rutter, 1979). From this perspective, there is no unique pathway from a risk experience to a negative outcome; rather, it is the number of risk factors that an individual experiences which better predicts outcomes (Fraser & Richman, 1999). The cumulative risk framework does not argue that outcomes are fully explained by generic, or nonspecific, risks, but instead suggests that the more negative or stressful events that an individual experiences, the more likely that person is to have poor developmental outcomes (Fraser & Richman, 1999).

Research indicates that cumulative risk generally does not have a linear relationship with child and adolescent outcomes (Smokowski, Mann, Reynolds, & Fraser, 2004). The effects of more than one risk experience are not simply additive; while having only one risk factor may have a minimal effect on outcomes, having three or more risk factors may create more than a three-fold increase in vulnerability (Rutter, 1979; Smokowski, et al., 2004). This cumulative effect of individual and environmental risk factors can be described as a synergistic interaction among those factors (Rutter, 2001).

In one of the first examinations of cumulative risk, Rutter (1979) studied psychiatric disorders in children who had experienced disadvantageous family situations, including severe marital discord, low SES, large family size or overcrowding, paternal criminality, maternal psychiatric disorder, and institutional care. He found that children

with only one family risk factor did not have statistically significant different outcomes from those with no risk factors; however, having two or more risk factors led to an interaction effect such that the likelihood of a poor outcome (in this case, a psychiatric disorder) increased significantly. Rutter (1979) noted, “the stresses potentiated each other so that the combination of chronic stresses provided very much more than a summation of the effects of the separate stresses considered singly” (p. 52).

Many studies have confirmed Rutter’s findings that increased risk exposure, or cumulative risk, during childhood is associated with child outcomes. Accumulated risk is positively related to psychological distress (Evans, 2003), psychiatric disorders (Blanz, Schmidt, & Esser, 1991; Rutter, 1979), poor social-emotional outcomes, and reduced competence (Sameroff, Bartko, Baldwin, Baldwin, & Seifer, 1998). Research also finds that children exposed to one risk factor are likely to be exposed to others; one study found that for those adults reporting exposure to any single category of childhood adversity the probability of exposure to any additional category was, on average, 80% (Felitti et al., 1998). The experience of poverty in childhood, which is often accompanied by a host of other risk factors such as minority racial status, low parental education, and a single parent household, has been linked to poor outcomes due to the overall cumulative risk (Bauman, Silver, & Stein, 2006; Duncan & Brooks-Gunn, 1997; Evans, 2004; Evans & Kim, 2007).

These studies suggest that it is not one particular risk factor that produces poor outcomes but the number of risk factors that a child experiences which most powerfully shape development; regardless of which specific risk factor(s) a child experiences, as the

number of risk factors increases the risk for psychosocial maladjustment increases (Appleyard, Egeland, Van Dulmen, & Sroufe, 2005; Bauman, et al., 2006; Deater-Deckard, Dodge, Bates, & Pettit, 1998; Rutter, 1979). The cumulative risk framework provides a helpful foundation for an examination of the ways that childhood risk experiences might affect adult social-emotional and psychological outcomes. If the data provide information about the number of family risk factors an adult experienced in childhood, that cumulative risk is likely be correlated to the individual's current personal and family relationships. This association could specifically be used to help explain an inmate's social ties, especially with his own children.

Incarceration Statistics and Child Outcomes

The dramatic rise in the United States' incarceration rate has amplified the visibility of parental imprisonment's effects on child and family outcomes (Western, Pattillo, & Weiman, 2004). Between 1991 and 2007, the number of people incarcerated in the U.S. increased by 92%; this included a 79% increase in the number of parents held in state and federal prisons (Glaze, 2010; Glaze & Maruschak, 2008). High recidivism rates compound the effects of mass incarceration (Braman & Wood, 2003). According to the most recent national statistics, within three years of their release over 67% of inmates are rearrested for a new offense and almost 52% are sent back to prison (Langan & Levin, 2002; Pew Center on the States, 2011). Parental incarceration and recidivism create a host of consequences for inmates' family members, especially their children (Braman & Wood, 2003).

When a parent goes to prison, whether for the first time or a re-offense, it affects child outcomes. Children of incarcerated parents often experience cumulative risk factors before their parent is imprisoned; they are more likely to be a minority, live in poverty, have less-educated parents, be raised by a single parent, and live in a neighborhood with high rates of crime and drug use (Pettit & Western, 2004; Wakefield & Uggen, 2010; Western, 2004). These risk factors are exacerbated by the experience of having a parent in prison. Studies have found that parental incarceration is positively related to a child's mental health problems (Murray, 2010), drug and/or alcohol abuse (Murray, Farrington, Sekol, & Olsen, 2009), poor performance in school (Johnston, 1995a), internalizing and antisocial behaviors (Johnson, 2009; Murray, et al., 2009), and increased delinquency and externalizing behaviors, including aggression (Johnston & Gabel, 1995; Wildeman, 2010). In a study that found paternal incarceration to have a negative effect on child's educational attainment, Foster and Hagan (2009) noted, "We interpret these results as a cautious and conservative confirmation of the harmful effects of the stigma as well as cumulative economic and educational strain imposed by paternal incarceration, net of selection processes that may also lead to fathers' being imprisoned." (p.187). Overall, research is clear that risk factors snowball for a child with an incarcerated parent.

Benefits of Non-Resident and Incarcerated Father-Child Contact

Studies indicate that contact between an incarcerated parent and his/her children can combat child risk factors associated with parental incarceration and strengthen the family bond (Hairston, 2007; Johnston, 1995b; Toth & Kazura, 2010). Research on nonresident father contact and child outcomes confirms this association (Hawkins,

Amato, & King, 2007). More frequent father-child contact predicts a decrease in the child's delinquent behavior (Coley & Medeiros, 2007), higher academic achievement (Amato & Gilbreth, 1999), increased mental health (Spruijt, de Goede, & Vandervalk, 2004), and reduced internalizing (Amato & Gilbreth, 1999) and externalizing behaviors (Dunn, Cheng, O'Connor, & Bridges, 2004). Considering the known association between parental incarceration and child outcomes, maintaining father-child contact appears to be a potentially powerful way to mitigate some of the risk these children experience.

While research indicates that contact with an incarcerated father can be good for children, it also benefits fathers. In a review of the literature on children's relationships with their non-resident fathers, Dunn (2004) found that contact is associated with fathers' having higher self-esteem, feeling more competent, and reporting increased happiness with family relationships. Contact between an incarcerated father and his children reduces the strain of separation and significantly predicts a father's level of attachment to, and involvement with, his children after release (Bahr, et al., 2005; Hairston, 2002; LaVigne, Naser, Brooks, & Castro, 2005; Visher & Travis, 2003). This commitment to the father role can help an inmate develop a pro-social identity (Hairston, 2003; Uggen, Manza, & Behrens, 2004). Research indicates that connection to family during incarceration also increases an inmate's successful integration into the community post-release and reduces recidivism (Bales & Mears, 2008; Visher & Travis, 2003). A father's success after incarceration should ultimately benefit his children, another important reason to explore the factors that predict incarcerated father-child contact.

Incarcerated Fathers as a Subset of Non-Resident Fathers

While increased incarceration rates have contributed in part to the trend toward fewer residential fathers, the structure of the family in the United States changed dramatically in the second half of the 20th century for a variety of reasons. Census data reveal that the proportion of adult men between the ages of 20 and 49 who lived with their biological children dropped significantly from 1965 to 1995, ranging from a 17% to a 66% decline; the largest declines were found among young fathers (Eggebeen, 2002). This rise in the number of fathers not living with their children has been attributed to both the high divorce rate and increased numbers of non-marital births (Cheadle, Amato, & King, 2010). A significant amount of research has examined how this family structure affects children (Coley & Medeiros, 2007; Fagan & Palkovitz, 2007; King & Sobolewski, 2006) and while the experience of having a non-resident father has been linked to poor outcomes for children (Amato & Gilbreth, 1999), the effects are modest (King & Sobolewski, 2006). Although there are a variety of possible explanations for why so many fathers do not reside with their children, studies find that a significant number of them remain in contact with their children despite the separation (Amato & Sobolewski, 2004).

Various studies have examined the patterns of contact between the general population of non-resident fathers and their children. Among a sample of 453 adolescents from the National Survey of Families and Households, 19% had no contact of any kind, 22% had no in-person contact, and 24% had no contact by mail or telephone with their non-resident fathers (King & Sobolewski, 2006). Within a subsample of adolescents

(N=647) from the longitudinal study *Welfare, Children, and Families: A Three-City Study*, Coley & Medeiros (2007) found that 36% had not had any contact with their non-resident fathers in the past year, while 32% reported that they experienced at least weekly contact with their fathers. Data from the National Longitudinal Study of Adolescent Health, in a subsample of 5,656 adolescents with a non-resident biological father, indicated that 14% of the young people had no contact at all with their fathers (King, Harris, & Heard, 2004). This study found racial differences in frequency of contact; Hispanic children were most likely to have no contact with their non-resident fathers, followed by white, black, and then Asian adolescents. However, among those who were in contact with their fathers, white adolescents were more likely to have frequent contact than either black or Hispanic youth.

Using both the National Longitudinal Survey of Youth and the Children of the National Survey of Youth data sets, Cheadle, Amato, and King (2010) followed non-resident father involvement trends in the lives of 4,864 children over a 14-year period. These authors found four patterns of contact between non-resident fathers and their children over time. Thirty-eight percent of the fathers maintained a consistently high level of contact with their children; although the men demonstrated a slight decline over time, they saw their children approximately once a week. Thirty-two percent of the fathers had minimal contact, defined as once per year, with their children and maintained this pattern consistently over time. The third group of fathers, 23% of the sample, had a high level of contact when first separated from their children but declined to the minimal level after 8 years. A very small group, 8% of the fathers, had minimal contact with their

children in the first year after separation but increased to a high level of contact over time. Across the four measurement times in this study, the percentage of young people who had no contact with their non-resident fathers began at slightly over 12% and rose to over 30% at six years.

Another type of temporarily non-resident father that is particularly salient at this time in history is the combat-deployed father. When a military father is sent to serve in a war zone, it can create family disruption that is very similar to the experience of having a father sent to prison. Paternal deployment during a time of war has been described as a “catastrophic” source of stress for children and other family members (Peebles-Kleiger & Kleiger, 1994) and, like incarceration, is an example of inaccessible fathers sent to dangerous environments. Researchers have noted that guardians struggle to decide how much information to share with a child when his or her parent is fighting in a combat zone in order to protect the child from excessive worry and emotional distress (Cozza, Chun, & Polo, 2005), an experience that is shared by those who care for the children of incarcerated fathers (Arditti, in press). However, the family members of men in prison carry the additional burden of stigma. The struggle to decide how much information to share with the child of a father in prison is in part to avoid having the child feel shame. This is simply not a problem for the children of deployed dads; their fathers are away for noble reasons.

Above and beyond the stressors associated with having a non-resident father who is living in a hazardous situation, e.g., separation and exposure to danger, the cause for separation in the case of prisoners is not seen in positive terms but instead is readily

construed as negative. While both are absent fathers, deployed men are considered honorable and incarcerated men are seen as dishonorable. The way the public frames these two types of fathers creates the lens through which their children are viewed. A meta-analysis of the research regarding child outcomes for those with deployed parents notes that, in this case, parent absence is considered both a source of risk and resilience (Card et al., 2011). A review of current research cited one particular study that found a correlation between children taking on additional responsibilities in the home while their parent is deployed and improved adjustment during adolescence (Huebner, Mancini, Wilcox, Grass, & Grass, 2007). Despite the similarities in experience, the social stigma that exists for incarcerated fathers creates a very different discourse around the effect of family separation on their children.

Incarcerated fathers are a unique subset of non-resident fathers because they are prohibited from living with their children. However, it is important to look at the patterns of father-child contact among incarcerated fathers within the larger context of non-resident fathers' contact with children. Among this study's sample of incarcerated fathers, 52% do not speak on the phone, 36% exchange no mail, and 63% have no visits with their children. Although these percentages are higher than those found among the general population of non-resident fathers, the data indicate that many incarcerated fathers do remain in contact with their children. Although they are physically separated, these men and their children continue to represent a family system.

Inmate's Family of Origin Experiences

Family members have a direct effect on child development and influence behavior, in both positive and negative ways (Masten & Shaffer, 2006). When a family affects positive child development it is considered promotive; in other words, some feature of the family is an asset to the child. On the opposite extreme, when a family characteristic or system predicts poor outcomes or maladaptive developmental patterns it is considered a risk factor. For example, poor family social environments create deficits in social competence, which has a negative impact on an individual's relationships (Repetti, Taylor, & Seeman, 2002). The patterns of development that are shaped in childhood affect the entire trajectory of an individual's life; therefore, childhood family experiences must be understood as principal influences on adult relationships and outcomes.

Incarcerated fathers experience a high number of family risk factors in childhood (Maruschak, et al., 2010) that often continue to affect them in adulthood (Taylor, Way, & Seeman, 2011). Statistics reveal that 14% of fathers in state prison report that they lived in a foster home, agency, or institution during childhood, 40% had parents who received public assistance, 33% report that a parent or guardian abused drugs or alcohol, and nearly 25% experienced parental incarceration (Glaze & Maruschak, 2008). These childhood family risk experiences impact the relationships that adult male inmates have with family members (Eddy, Kjellstrand, Martinez Jr., & Newton, 2010) and, because social ties are an important factor in an incarcerated father's contact with his children, it is likely that an inmate's childhood experiences impact the frequency of that contact.

Large number of siblings. Specific experiences in childhood have been linked to poor child and adult outcomes. One such experience is growing up in a family with many siblings (Wagner, Schubert, & Schubert, 1985). From a theoretical perspective, some argue that when parents have many children they have fewer resources to devote to each individual child and that this dynamic may affect the child's developmental trajectory. This argument was validated in a study that found an inverse relationship between the number of children and parental financial investment in each child (Powell & Steelman, 1995). In a review of the literature available at that time on the effects of family size on child outcomes, Wagner, Schubert, and Schubert (1985) concluded that large family size was correlated to lower SES, increased use of punitive and corporal punishment by parents, poorer self-esteem, more marital discord among parents, less control of aggression, more suicidal tendencies, increased delinquency, increased risk-taking, and higher risk of alcoholism. Other studies found a negative relationship between number of siblings and educational attainment (Downey, 1995), a correlation between large family size and drug abuse (Reinherz, Giaconia, Hauf, Wasserman, & Paradis, 2000), and that children with four or more siblings had a lower birth weight and a reduced growth rate through age 10, even after controlling for family-level socioeconomic factors (Lawson & Mace, 2008). Given the variety of poor outcomes that have been linked to large family size, the experience of having a large number of siblings can be considered a risk factor.

Foster or institutional care. Children who have lived in foster care, an agency, or an institution have necessarily experienced family trauma and disruption, which is associated with poor developmental outcomes (Arditti, in press; Felitti et al., 1998).

While state child protective services are meant to protect children who are at risk of harm in their own homes, research indicates that outcomes are not always improved for those who are removed from their parents (Doyle & Joseph, 2007). Although it is important to note that child-level characteristics that existed prior to placement may influence developmental outcomes for children who have been in foster or agency care, the fact remains that family trauma also preceded the child's removal from the home. Studies find that the experience of being in foster or institutional care is correlated with increased mental health problems (Kools & Kennedy, 2003), including hospitalizations for psychiatric diagnoses (Vinnerljung, Sundell, Lofholm, & Humlesjo, 2006), as well as higher incarceration rates, and likelihood of homelessness, victimization from a violent crime, and receipt of counseling or substance abuse treatment (Courtney, Dworsky, Lee, Raap, & Hall, 2010). The positive relationship between removal from the family in childhood and poor outcomes makes this experience a risk factor.

Poverty. Another childhood risk factor is living in poverty. The experience of poverty in childhood is associated with higher levels of behavioral and emotional problems (Duncan & Brooks-Gunn, 1997; McLoyd, 1998). The social characteristics of living in poverty contribute to its negative relationship with healthy child development because families living in poverty have been shown to receive less social support, have weaker social ties, and have smaller social networks (Evans, 2004). In addition, low income children are more likely to be exposed to other risk factors, such as large family size, single parent household, low parental education, low-status parental occupation, violence, substandard housing, separation from the family, and institutionalization

(Evans, 2004; Luthar, 1991). For this reason, poverty has been described as a broad contextual influence because it represents a cluster of risk factors that often occur concurrently.

There is also abundant evidence of a relationship between low socioeconomic status (SES), a measure of a family's social and economic position in relation to others in society, and child outcomes. SES is correlated with children's cognitive, physical, emotional, and psychological development (Mayer, 1997) and has been found to be a significant predictor of children's social-emotional functioning (Sameroff, et al., 1998). Furthermore, low SES has been linked to both increased psychiatric disturbances and maladaptive social functioning (Bradley & Corwin, 2002).

Poverty's impact on child outcomes may be due to its effect on the family environment as much as the experience of limited resources. Fewer economic resources is associated with perceived economic stress for parents, which in turn is related to increased marital discord and weaker relationships between child and parent, and these two independent variables are linked to lower levels of psychological well-being into adulthood (Sobolewski & Amato, 2005). One study found that economic hardship in their family of origin predicted adult emotional well-being through the mediation of parent-child relationship quality (Sobolewski & Amato, 2005). In another, low childhood SES was associated with a harsh family environment and both were correlated to poor psychosocial functioning in adulthood (Taylor, et al., 2011). Children who experience negative parenting demonstrate deficits in their social skills throughout life and are more likely to have problematic relationships and less supportive social networks (Repetti, et

al., 2002). Based on these findings, it is reasonable to suggest that childhood poverty may have an effect on adult social ties.

Parental substance abuse. Experiencing parental substance abuse has also been linked to developmental outcomes in a variety of domains, some of which may affect family relationships into adulthood. Studies indicate that children with a substance abusing parent are at significant risk for poor social, psychological, behavioral, and overall health outcomes, even after controlling for other individual and family characteristics that are associated with substance abuse and child development (Johnson & Left, 1999; Osborne & Berger, 2009, Ronel & Haimoff-Ayali, 2010). Children raised in a home where a parent abuses drugs are more likely to develop antisocial and delinquent behavior (de Kemp, Scholte, Overbeek, & Engels, 2006) and to become involved in substance abuse themselves (Allen, Donohue, Griffin, Ryan, & Mitchell Turner, 2003). These effects, which indicate that the experience of parental substance abuse is a childhood risk factor, have been shown to last into adulthood and to affect family relationships; prisoners who reported that their parents or other family members used drugs or alcohol were found to have poorer relationships with their children (Alexander Jr., 2005).

Parental incarceration. As discussed in detail previously, children of incarcerated parents are at risk for poor developmental outcomes. The incarceration of a parent has been conceptualized as an adverse childhood experience that acts as a pathway for impairments in emotional and social development (Arditti, in press; Felitti, et al., 1998). Longitudinal studies have found that children of prisoners are at an increased risk

for mental health problems and are three times more likely to exhibit antisocial behavior than their peers (Murray & Farrington, 2008). Some researchers argue that the trauma experienced when a parent goes to prison is at the root of the higher rates of aggressive behavior seen in children of incarcerated parents (Wildeman, 2010). The psychological, emotional, and social problems that can result from the childhood experience of parental incarceration are likely to impact an individual's relationships into adulthood.

Cumulative risk. While the detailed childhood experiences represent individual risk factors, they are often highly correlated and occur in tandem or clusters (Arditti, in press; Felitti, et al., 1998). Research indicates that having a higher number of adverse experiences in childhood creates a more than additive effect on child outcomes (Rutter, 1979). Studies have found that children who experience cumulative risk, as opposed to a singular risk factor, are more likely to suffer a range of negative outcomes, including depressive disorders and suicide attempts (Chapman et al., 2004; Felitti, et al., 1998), anxious behavior (Smokowski, et al., 2004), poor social-emotional and mental health (Sameroff, 2006), increased anger, externalizing behaviors, and aggression (Deater-Deckard, et al., 1998; Novero, Loper, & Warren, 2011), alcohol and drug abuse (Felitti, et al., 1998), and poor social skills (Smokowski, et al., 2004). From a cumulative risk perspective, there is no direct link between individual risk experiences and outcomes. Instead, the number of risk factors predicts developmental outcomes.

In order to assess an individual's experience with multiple levels of risk, it is customary to create a cumulative risk index by adding up the number of risk factors experienced. The individual risk factors are dichotomized so that Yes=1 and No=0 and

the index becomes a continuous variable ranging from 0 to the total number of possible risk factors (Sameroff, Seifer, & McDonough, 2004). Prior research has established the use of the following individual childhood risk experiences as part of a cumulative risk index: parents received welfare benefits or family lived in poverty (Appleyard, et al., 2005; Bauman, et al., 2006; Sameroff, et al., 1998; Smokowski, et al., 2004), four or more children in the family (Blanz, et al., 1991; Rutter, 1979; Sameroff, et al., 1998; Smokowski, et al., 2004; Trentacosta et al., 2008), ethnic or racial minority status (Bauman, et al., 2006; Sameroff, et al., 1998), parental criminal involvement or incarceration (Blanz, et al., 1991; Rutter, 1979; Trentacosta, et al., 2008), lived in foster or institutional care (Blanz, et al., 1991; Evans, 2003; Masten & Powell, 2003; Rutter, 1979), and parental drug/alcohol abuse (Ronel & Haimoff-Ayali, 2010; Trentacosta, et al., 2008). These established risk factors occur at both the individual and family levels.

While childhood risk can occur on many levels, research finds that negative or traumatic experiences within the family have a particularly powerful impact on social-emotional development. An individual's development, both during childhood and into adulthood, has a profound effect on their success in life in a variety of domains. The literature clearly documents the range of poor psychological, emotional, and social outcomes that result from childhood risk experiences. The importance of social connections for maintaining contact with their children makes inmate family of origin characteristics an essential component of this study.

Inmate Characteristics

Descriptive statistics about incarcerated fathers reveal much about the inherent vulnerability of this population and the structural inequalities of the criminal justice system. Nearly 40% of fathers in prison in the U.S. are black, while 30% are white and 20% are Hispanic (Glaze & Maruschak, 2008). This is in sharp contrast to the racial profile of the general population which is roughly 13% black, 67% white, and 14% Hispanic (Passel & Cohn, 2008). Men under 30 are most likely to be incarcerated, but the rate varies by racial category; almost 12% of black men, but only 2% of whites, between the ages of 22 and 30 are in prison (Western, et al., 2004). Across races, incarcerated fathers are less educated than men in the general population. Only 62% of fathers in state prison had a high school diploma or GED upon admittance, significantly fewer than the 84% of all U.S. men who are high school graduates (Glaze & Maruschak, 2008; Stoops, 2004). The likelihood of incarceration increases significantly for minority men with less education; only 7% of whites, but 30% of young black men, who have dropped out of high school will end up in jail or prison (Pettit & Western, 2004). In addition, fewer incarcerated fathers are married than those in the general population (Western, et al., 2004). These statistics indicate that fathers in prison are likely to be young, poorly educated, unmarried, and belong to a minority group.

Research finds that individual characteristics, such as age, education, race, and marital status, may impact the frequency of contact between an incarcerated father and his children. Studies of vulnerable and criminally involved fathers have found that younger men are less likely to actively participate in their children's lives (Wilkinson,

Magora, Garcia, & Khurana, 2009), although other research indicates that older fathers are more likely to withdraw from parental responsibilities (Farrie, Lee, & Fagan, 2011; Waller & Swisher, 2006). Higher levels of education are positively related to increased father engagement (Modecki & Wilson, 2009; Woldoff & Washington, 2008) and married fathers have more frequent visits than those who are single or divorced (Hairston, 1998). Contact between non-resident fathers and their children also varies by race (Swisher & Waller, 2008); white adolescents have more father contact than those who are black or Hispanic, and Hispanic children are most likely to have no contact with their fathers (King, Harris, & Heard, 2004). Although the research is limited on the individual characteristics that predict frequency of child contact specifically for incarcerated fathers, studies of vulnerable and/or non-resident fathers indicate that these factors matter.

Individual characteristics may also represent risk experiences. Minority status has been consistently linked to poor child outcomes; black and Hispanic children are more likely to go to prison in their lifetimes, live in poverty, have inadequate access to health care, experience mental health problems (yet less likely to receive treatment), be homeless, and achieve low levels of education than their white counterparts (Children's Defense Fund, 2007; McRoy, 2008). Studies also indicate that race may interact with the experience of growing up in poverty to affect mental health outcomes (McLoyd, 1998) and that racial or ethnic status moderates the relationship between cumulative risk and externalizing behavior (Deater-Deckard, et al., 1998).

Low educational attainment is also related to poor outcomes. Educational attainment is a key component of success in adulthood, both economically and

emotionally (McLeod & Kaiser, 2004). Having less education often leaves adults unprepared to acquire meaningful, well-paid work in which they can support themselves financially and find personal fulfillment (Richman, Bowen, & Woolley, 2004). Not finishing high school has a significant negative impact on psychological functioning in adulthood (Kaplan, Damphousse, & Kaplan, 1994), and is correlated to increased intravenous drug use (Obot, Hubbard, & Anthony, 1999), higher mortality rates (Trumbetta, Seltzer, Gottesman, & McIntyre, 2010), and mental health disorders (Chong et al., 2009). These studies indicate that education, much like age, race, and marital status, can impact an individual's personal development and relationships.

Child and Caretaker Characteristics

Although an inmate's family of origin experiences and individual characteristics are likely to affect the frequency of contact between an incarcerated father and his children, it is also important to examine the characteristics of his children and their caretaker. Both the number of children a father has and their ages may affect father-child contact. Research indicates that fathers with more children are less engaged (Woldoff & Washington, 2008) and that contact between a father and child declines as the child grows older (Parke, 1996). Among the inmate population there are racial differences in the number of children men have; black inmates are more likely than Hispanic or white inmates to have 4 or more children, while Hispanic incarcerated fathers are more likely to have 2 or 3 children than either black or white inmates (Glaze & Maruschak, 2008). It is possible that both minority status and number of children impact the amount of contact an inmate has with his children.

Contact between an incarcerated father and his child is generally conditional upon his relationship with the child's caretaker, which is most often the mother (Arditti, Parkman, & Smock, 2005; Roy & Dyson, 2005). Not only is the relationship between the inmate and his child's caretaker a factor, but so are the caretaker's available resources for maintaining contact. The high rate of poverty among families of inmates often makes regular phone calls and visits cost prohibitive (Hairston, 2001). It is likely that whether or not the children's caretaker is living in poverty, in addition to the characteristics of the children themselves, will impact the amount of contact they have with their incarcerated father.

Inmate Pre-Incarceration Family Commitment

While the child and caretaker are two components of the incarcerated father's family system, he is a vital contributor as well. The level of commitment that an incarcerated father demonstrated before he went to prison is linked to the father-child relationship while he is away (Woldoff & Washington, 2008). Studies of non-resident and incarcerated fathers find that prior involvement, such as living with his children and/or providing financial support, predicts frequency of contact during their separation (Carlson & McLanahan, 2002; Cheadle, Amato, & King, 2010; Lanier, 1991; Whiteside & Becker, 2000; Wilkinson, et al., 2009). Due to the fact that earlier research has established that the connection created prior to incarceration is correlated to the frequency of contact between an imprisoned father and his child, it has been incorporated as a predictor in the current study. The inmate's personal characteristics and pre-incarceration family commitment, as well as the child and caretaker characteristics, have

been included as control variables in this thesis to determine if an inmate's family of origin experiences predict the frequency of father-child contact.

Research Hypotheses

Based on the general theoretical foundation of the ecological model of development, and the more specific risk and resilience and cumulative risk perspectives, this thesis focuses on the ways that an incarcerated man's childhood family experiences might impact his relationship with his own children. As a population, incarcerated men experience significantly more lifetime risk than their non-incarcerated counterparts. Previous research has also clearly documented the relationship between adverse experiences in childhood and adult social-emotional outcomes. In addition, numerous studies have found that cumulative risk has more than an additive effect on outcomes and, in fact, operates synergistically. Given all that is known about the dynamic effects of family experiences on an individual's development, it is logical to assume that the amount of negative or stressful events that occur in an incarcerated father's home environment during childhood will impact his behavior and the social bonds he forms in adulthood. This assumption informs the following hypotheses that have been tested by the current study:

Hypothesis 1: Incarcerated fathers with a higher number of childhood risk experiences will have less frequent contact with their children through phone calls, mail, and visits than those with fewer risk factors, as demonstrated by the conceptual research model in Figure 2.1.

Hypothesis 2: Race/ethnicity and education will moderate the relationship between childhood risk and frequency of contact; as highlighted in Figure 2.2, the experience of being black or Hispanic, in comparison to white, and/or having a low level of educational attainment will compound childhood risk experiences, leading to less frequent contact between an incarcerated father and his children.

Hypothesis 3: The relationship between an inmate's childhood risk factors and the frequency of contact with his children will not be linear; fathers with a low number of risk experiences will not be significantly different in terms of contact from those with no risk factors, but after a certain threshold of risk the interaction of the multiple factors will cause the frequency of contact to drop substantially.

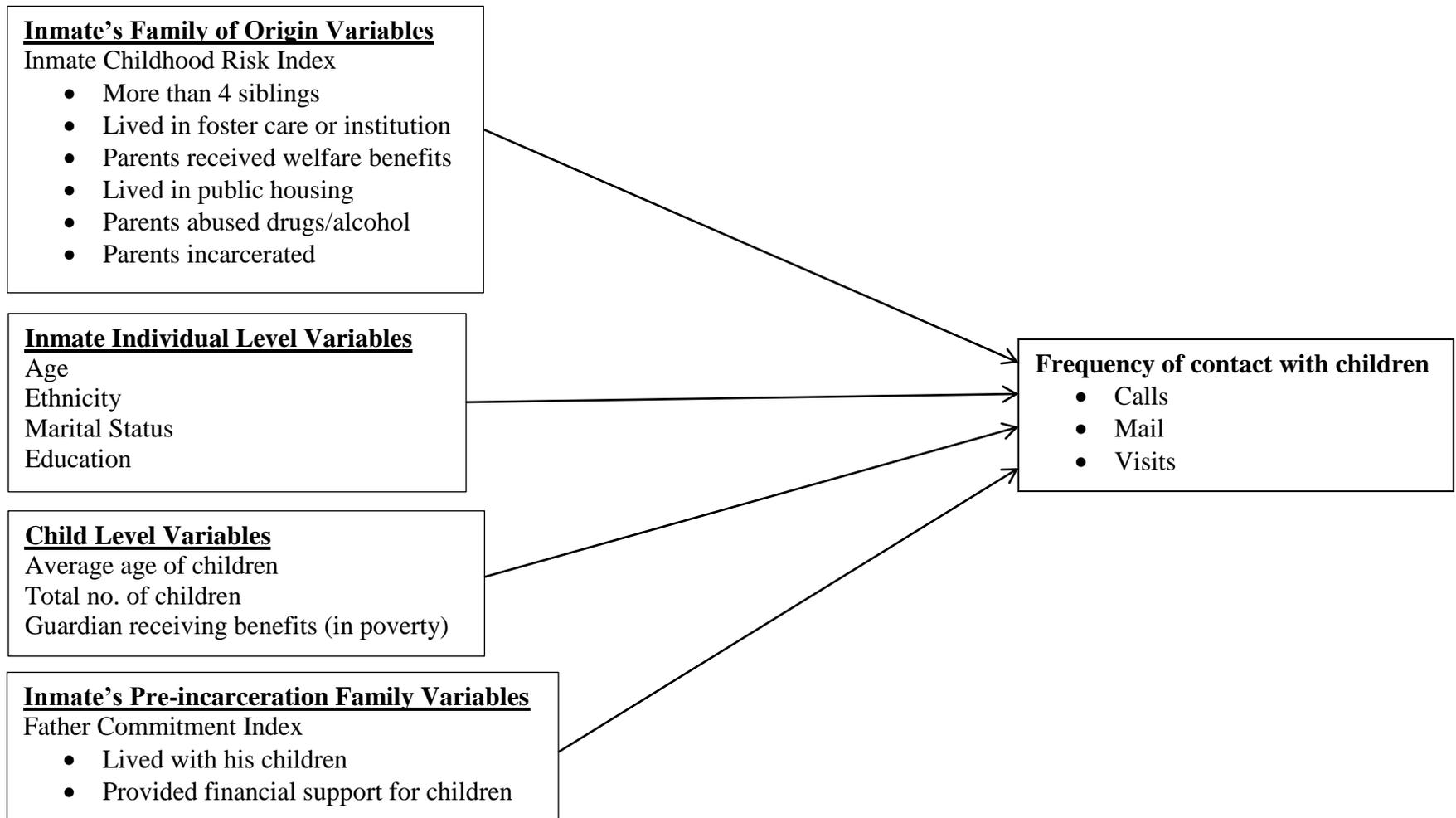


Figure 2.1. Conceptual Research Model

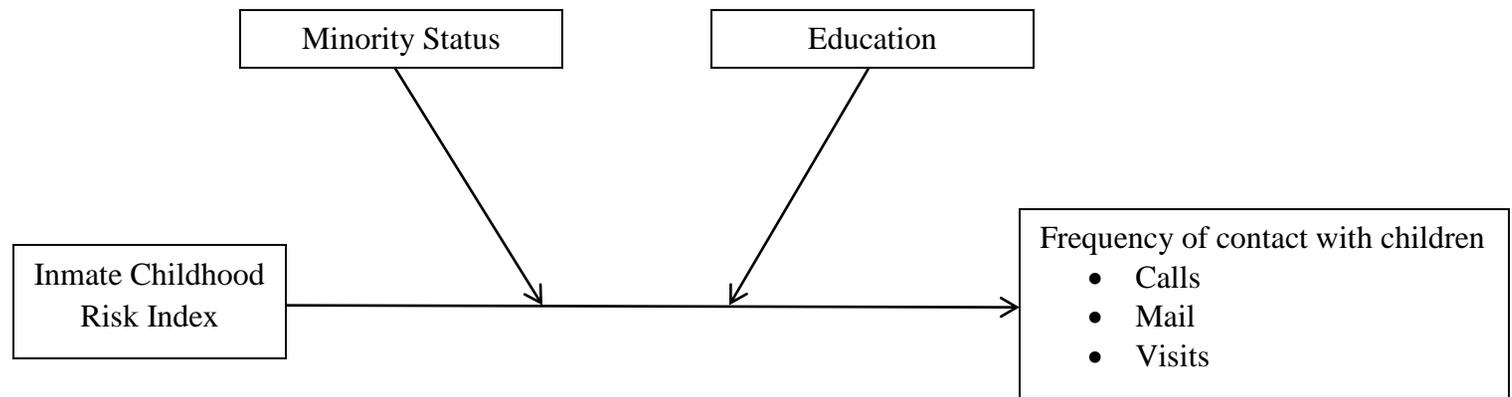


Figure 2.2. Model of the Hypothesized Moderated Relationship between Risk and Contact

Chapter 3: Methods

Data Set

The data for this study are taken from the 2004 Survey of Inmates in State Correctional Facilities (SISCF), which was conducted by the United States Department of Justice, Bureau of Justice Statistics. Although the Bureau of Justice Statistics conducted surveys of inmates in both state and federal correctional facilities, this study will only analyze the data from state prisons. There are four reasons for this decision. First, there are far fewer federal than state prisons in the U.S.; in 2005, there were 102 federal facilities and 1,719 state facilities (Stephan, 2008). This means that federal prisoners are often incarcerated far from their homes and this physical distance is likely to affect father-child contact. Second, federal inmates are generally older, more educated, more likely to be married, and less likely to be non-Hispanic white than inmates in state prisons (Glaze & Maruschak, 2008). In addition, federal courts handle different crimes than state courts, including those against the United States and those that break federal laws; examples include drug, bankruptcy, copyright, maritime, immigration, tax, firearm, postal, and financial law cases (Federal Judicial Center, 2012). Finally, federal sentences are generally longer, sometimes much longer, than similar crimes sentenced in a state court (Miller & Eisenstein, 2005; O'Hear, 2002). Due to these differences in the types of offenses, sentence lengths, inmate characteristics, and correctional facility locations, the current study will only examine fathers incarcerated in state prisons.

The survey sample was selected through a two-stage process: prisons were selected during the first stage and inmates within those prisons were selected at the

second stage (United States Department of Justice, 2007). There were separate sampling frames for male and female prisons, with those housing both genders included in both sampling frames. The use of this sampling design facilitated the creation of a representative sample for each gender and for all inmates housed in state correctional facilities.

Out of the 1401 state prisons housing male inmates from the 2000 census, 225 male facilities were selected. From the total sampling frame of male prisons, 14 were designated “self-representing” and selected with certainty due to a significantly large population or a moderately large population combined with a wide array of prison health facilities. If a prison population when divided by the national inmate sampling interval was greater than 75, which for male prisons meant having more than 6,445 inmates, it was considered to be a large prison and was automatically included. In addition, prisons which offered mental health, medical, and geriatric services were included if they had more than 1,500 male inmates. The remaining 1387 non-self-representing prisons were divided by census region into eight strata. The facilities within each stratum were placed in order of population size and then selected based on probability proportional to size. From this sample, 211 additional male prisons were selected using a random start followed by a sampling interval. The interval was calculated for each stratum by dividing the total prison population of that stratum by the desired number of sample prisons for that stratum’s region.

To select inmates within prisons, interviewers were given a list from each prison of the inmates who had used a bed the previous night. Those inmates were numbered and

then chosen using a randomly selected starting point and a skip interval that was predetermined. For the SISCF, a total of 13,098 males were selected. This translated to approximately 1 in every 85 male inmates in state facilities being selected for the survey.

Survey data were collected through computer-assisted personal interviews, where a computer provided the interviewer with both initial and appropriate follow-up questions. Inmates were told before the interview, both verbally and in writing, that participation in the survey was completely voluntary and that all collected information would be confidential. These interviews took place between October, 2003, and May, 2004.

The nationally representative data provide information about the inmates' individual characteristics, as well as their criminal histories and family background. In addition, the data contain information about the frequency of contact between the inmate and his or her children. The original sample included 14,499 participants, 11,569 men and 2,930 women. The full sample was first reduced to include only men. Of those men, 4,928 answered "Yes" to the following question: "Do you have any children, including step- or adopted children?" and the remaining were dropped from the sample. For the purposes of the current study, which focuses on father involvement with children who are still legally considered dependent and are culturally understood to be primarily socialized by their family members (Masten & Shaffer, 2006), the sample of all fathers (N=4,928) was reduced to include only men who answered "Yes" to the question, "Are any of your children under 18?" The final sample included 3,739 incarcerated fathers who indicated that they have at least one child under the age of 18. Descriptive statistics for the full

SISCF sample, the sample of all fathers, and the final sample of fathers with at least one minor child can be seen in Table 3.1.

This data set employed a complex sampling design and provided a final weight variable which is the inverse probability of selection (more information about the sampling procedure can be obtained from the Bureau of Justice Statistics website at <http://bjs.ojp.usdoj.gov/index.cfm?ty=dcdetail&iid=275>). The use of the weight variable may be problematic in this case because the sample being used for the current study is a subpopulation of the full sample. The final sample only included men who have a child under the age of 18 out of a full sample of both male and female inmates. Due to issues of using the weight variable for such a small subpopulation, this study has utilized only an unweighted analysis. However, all efforts were made to determine the most appropriate modeling techniques for the available data.

Variables

Cumulative risk from an inmate's family of origin experiences. The primary focus of this thesis is the examination of an inmate's childhood risk experiences. To assess this risk, survey questions related to the inmate's experiences in his family of origin were used to create a childhood risk index. There was a question that asked, "How many brothers and sisters have you had? Include half and step brothers and sisters." From this question, the variable was recoded to determine childhood risk by clarifying those who had more than 4 siblings (42%; N=3719, see Table 3.2). It became a dichotomous variable where "Yes"=1 and "No"=0. Responses of "Don't know" or "Refused" were recoded as missing.

The experience of living in foster care or an institution, which results from some sort of family trauma, is also considered a childhood risk factor (Kools & Kennedy, 2003). The SISCF asked the question, “Was there ever a time while you were growing up that you lived in a foster home, agency or institution?” “Yes” responses were coded as a score of one and “No” responses a zero; responses of “Don’t know” or “Refused” were recoded as missing. Thirteen percent of fathers in this study’s sample reported that they had lived in a foster home or institution (N=3669).

Growing up in poverty is a well-established risk factor (Appleyard, et al., 2005; Evans & Kim, 2007; McLoyd, 1998). The survey asked the following question: “While you were growing up, did any of your parents or guardians receive welfare or public assistance, for example, AFDC, food stamps, Medicaid or WIC?” While this question did not directly assess an inmate’s experiences with living in poverty, the receipt of welfare benefits is an established proxy for that construct. The question was recoded so that “Yes”=1 and “No”=0, with “Don’t know” and “Refused” recoded as missing. Among the fathers in the sample, 40% reported that their parents had received public assistance (N=3607).

Living in public housing is an experience that is related to poverty, but is considered an additional risk factor. Public housing can increase an individual’s disadvantage because it congregates people who are already in poverty into often substandard, and frequently unsafe, living conditions (Kotlowitz, 1991; Suglia, Duarte, & Sandel, 2011). The SISCF survey asked, “While you were growing up, did you ever live in public housing or publicly-assisted housing, for example, Section 8 housing?” The

responses to this question were recoded; “Yes”=1, “No”=0, and both “Don’t know” and “Refused” as missing. In this study’s sample, 22% of the fathers lived in public housing while growing up (N=3692). Of those fathers who received public assistance (N=1464), 43% also lived in subsidized housing.

To assess additional childhood risk factors, data regarding whether or not the inmate’s parents ever abused drugs or alcohol and if they were ever incarcerated was also included. The survey asked, “When you were growing up, did any of your parents or guardians abuse alcohol or drugs?” and the responses were recoded so that an affirmative response received a value of one, while a negative response equaled zero and both “Don’t know” and “Refused” were considered missing. The identical coding scheme was used for responses to the following question regarding the experience of parental incarceration: “Have any of your parents or stepparents ever been sentenced and served time in jail or prison?” Among the current sample, 33% of the men had a parent or guardian who abused drugs or alcohol and 23% had a parent who was incarcerated. In comparison, a study that measured childhood risk experiences in an adult representative non-prison sample found that 25.6% had experienced substance abuse in the household and 3.4% had experienced incarceration of a household member (Felitti, et al., 1998).

To test the hypothesis that cumulative risk from childhood will impact the frequency of contact an incarcerated father has with his children, a Childhood Risk Index was created for this thesis. In alignment with other research on cumulative risk, each of the childhood risk experiences was coded as a dichotomous variable and the responses to these variables were summed into a cumulative risk index (Appleyard, et al., 2005;

Rutter, 1979). When all six of the family-of-origin variables were added together it resulted in a continuous Childhood Risk Index variable with scores ranging from 0-6. For this index, any included variables with missing data were maintained as missing. In the current sample, the data indicate that 51% of the fathers experienced one or fewer risk factors and 13% experienced four or more. This can be compared to a representative sample of adults who were not incarcerated, where the data found that with seven categories of adverse childhood exposures, 52% experienced one or fewer and 6.2% experienced four or more risk factors (Felitti, et al., 1998).

Control variables. In order to isolate the effect of childhood risk experiences on the frequency of contact an incarcerated father has with his children, the current study included a variety of control variables. All of the control variables were chosen based on availability in the data set and prior research indicating that they are likely to impact father-child contact. Those variables have been organized into the following three categories: inmate individual characteristics, child and caretaker characteristics, and inmate pre-incarceration commitment level.

Individual characteristics. At the individual level, the variables of age, education, marital status, and race/ethnicity were analyzed. Both age and education were continuous variables. Inmate ages ranged from 17 to 67; the mean age in the study sample was 32.87. Education was measured in number of years and the scale went from zero, which indicated that the inmate never attended school or only went to kindergarten, through 18 years, which corresponded to two or more years of graduate school. The mean education level in the sample was 10.72 and this corresponded to some high school but not

graduation or completion. For both of these variables, responses of “Don’t know” or “Refused” were recoded as missing.

Marital status was a categorical variable and the choices were “Married,” “Widowed,” “Divorced,” “Separated (Not because of incarceration),” and “Never married,” with “Don’t know” or “Refused” recoded as missing. These categories were compressed for ease of analysis into three groups and recoded as dummy variables. “Married” became the reference group, based on prior research indicating that married inmates have more frequent contact with family members. The second group was fathers who indicated they were “Never Married”. The final category was called “No Longer Married” and included those men who indicated that they were divorced, separated, or widowed at the time of the survey.

To create a concise variable that would identify the inmate’s racial or ethnic identity, this study examined the responses to two separate survey questions. Any inmate who responded “Yes” to the question, “Are you of Spanish, Latino, or Hispanic origin,” was coded as Hispanic. The second question asked, “Which of the following categories describes your race?” The possible responses were “White,” “Black or African American,” “American Indian or Alaska Native,” “Asian,” “Native Hawaiian or other Pacific Islander,” “All other races,” and “Don’t know.” Survey respondents were instructed to mark all of the responses that apply.

In an attempt to create distinct race/ethnicity categories from a survey question that allowed multiple responses, this study used phenotype as a guideline. Researchers have coined the phrase *racial phenotypicality bias* (Maddox, 2004) to describe the

phenomenon whereby individual outcomes are related to the racial category that best matches a person's physical characteristics; individuals whose appearance matches those of a socially constructed minority race are likely to be viewed by others through the lens of cultural categories and stereotypes. For example, many people of African American heritage will display distinct physical attributes such as darker skin color and dark hair, leading others to identify them as black. Based on this bias, all respondents who indicated "Black or African American" as a category that described their race were coded as black, regardless of any other categories that may have been chosen. Respondents who indicated that they were "Hispanic" were coded in that category regardless of any others that were chosen, unless they also indicated that they were black. In that case, it was assumed that their physical attributes would have caused them to have been identified by others as black, so they were coded in that category. Inmates who categorized themselves as "American Indian or Alaska Native" were coded as Native American, unless they had indicated that they were also either black or Hispanic. Anyone who indicated that they were "Asian," "Native Hawaiian or other Pacific Islander," or "All other races" was coded as Other, unless they also responded that they were American Indian, Hispanic, or Black. Respondents were coded as white if they responded to this survey question by choosing only the "White" racial category. Any responses of "Don't know" were coded as missing.

While the separate racial and ethnic categories were useful descriptive statistics to identify the participants in this study's sample, this thesis hypothesizes that being black or Hispanic will act as an additional risk factor and moderate the relationship between

childhood risk and frequency of father child-contact. The choice to only examine these two minority groups in comparison to white inmates was based on a two factors. First, the number of inmates in the final sample who identified as “Native American” was 3% of the total, or 113 men. Only 1.5% of the fathers, 56 out of 3739, in the sample were classified as “Other.” These numbers were extremely small and there was not enough statistical power to analyze them separately. In addition, most of the literature on the racial and ethnic composition of the prison population focuses on the differences between white, black, and Hispanic inmates (Alexander Jr., 2005; King, Harris, & Heard, 2004; Swisher & Waller, 2008; Wildeman, 2010). For these reasons, the fathers who were categorized as “Native American” or “Other” were dropped from the sample and the analysis was performed only for fathers who were classified as “Black,” “Hispanic,” or “White.” To examine the effects of race and ethnicity on frequency of father-child contact, dummy variables were created; “White” was used as the reference group and both “Black” and “Hispanic” were included as predictors.

Child and caretaker characteristics. The child level variables used as controls in this study included the mean age of the inmate’s ten youngest children, number of children, and whether or not the caretaker received welfare benefits. While this sample only included fathers who have at least one minor child, the survey allowed for information about the ages of up to 10 children. In addition, the questions about frequency of contact asked generally about how often the inmate has contact with his children, without any distinction about which specific children, so it was important to keep all available child data. For this reason, the children’s ages were all maintained in

the data set and a new variable was created that was the mean age of the ten youngest child ages listed in the survey response. Children younger than one year old were coded as zero in response to this question, so their ages did not affect the mean. Responses of “Don’t know child’s age” and “Refused” were recoded as missing. The range of average children’s ages in the final sample was from 0-32 with a mean of 9.51.

After asking if the inmate had any children, the next question in the SISCF asked the respondent, “How many children do you have?” This question allowed the respondent to choose a number, which the interviewer entered into the computer. In the current sample of fathers, the answers ranged from 1- 21, with a mean of 2.34. For the statistical analysis, number of children was a continuous variable.

The current data set did not include a measure of the quality of the relationship between the incarcerated father and his child’s caretaker, which would provide valuable information about that person’s willingness to foster the relationship between the father and child. However, there was a survey question that asked about the financial status of the child’s caretaker and may be considered an indicator of whether or not the child was living in poverty. This information could provide useful information about whether the caretaker had the financial resources to facilitate a relationship between the father and child. Given the high costs of phone calls and visits to state prisons that may be far away from the child’s current home, it is likely that poverty status on the part of the caretaker would affect the frequency of contact between the child and incarcerated father. After a question in the SISCF that identified the current guardian of the inmate’s children, a follow-up question asked, “Is/Are the guardian(s) receiving Temporary Assistance for

Needy Families (TANF), WIC, or some other financial assistance to help care for the children?” Caretaker poverty was assessed as a “Yes” or “No” response to the question about receipt of welfare benefits and coded as a dichotomy where “Yes” equaled one and “No” equaled zero; responses of “Don’t know” and “Refused” were recoded as missing.

Inmate’s pre-incarceration family commitment. Two survey questions asked about the father’s relationship with his minor children before he went to prison and responses were included in the current study as control variables to account for the father’s pre-incarceration commitment to his children. After asking about the number of children he had who were under age 18, the survey asked, “Were any of these children living with you just before your current incarceration?” and “Were you the primary source of financial support for these children?” For both of these questions, “Yes” responses were coded as a value of one, “No” responses a zero, and “Don’t know” and “Refused” as missing. These two pre-incarceration family commitment variables were fairly correlated with a Cramer’s V of 0.34, so a Father Commitment Index was created. This index summed the scores for the two father commitment questions and was continuous with a range from 0-2, with missing values maintained.

Outcome variables. For outcome variables, the present study examined the frequency of contact between incarcerated fathers and their children in three separate domains: phone calls, mail, and visits. The survey asked the inmate the following question: “Since your admission to prison on (date given previously), about how often have you made or received calls from any of your children?” This question offered the following answer choices: “Never,” “Less than once a month,” “At least once a month,”

“At least once a week,” “Daily or almost daily,” “Don’t know,” and “Refused.” The first question was followed by one that asked, “And how often have you sent or received mail from your child(ren)?” then another, “And how often have you been personally visited by your child(ren)?” For this study, answers of “Don’t know” or “Refused” to any of the contact questions were recoded as missing. The various levels of contact frequency were recoded into numeric order so that “Never” equaled zero and “Daily or almost daily” equaled four.

In order to gain an accurate understanding of whether any of the predictors impacted frequency of contact, it was important to eliminate men who were not allowed contact. For this reason, two additional questions in the SISCF that pertain to inmate contact were included in this study. The first one asked, “Are you allowed to talk on the phone with friends and family?” Any inmates who responded “No” to this question were dropped from the sample when running the statistical analysis on frequency of phone contact. This provided more meaningful data about predictors of contact by eliminating those who have zero contact due to other factors, such as rule infractions within the institution or a restraining order. Another question asked the inmate how many visits he had with anyone besides his lawyer in the past month and followed up with the question, “Were you allowed to have any visits?” Those respondents who indicated that they were not allowed visits were removed from the sample for the analysis of the frequency of visits with children.

Interaction terms. To assess whether race/ethnicity and education moderated the relationship between childhood risk and frequency of father-child contact, interaction

terms were created. The variables of education and childhood risk were continuous, so those were both centered. Then, the Education X Childhood Risk interaction term was generated by multiplying the centered childhood risk variable by the centered education variable. In addition, interaction terms were created for Black X Childhood Risk and Hispanic X Childhood Risk. The race/ethnicity interaction terms were generated using dummy variables and white was the reference group.

Quadratic term. The third hypothesis of this study predicted that there would be a non-linear relationship between childhood risk and frequency of incarcerated father-child contact. To test this hypothesis, a quadratic term was created by squaring the childhood risk variable. The Risk² variable was included in the analysis of all three types of father-child contact.

Statistical methods

This study aimed to determine whether an inmate's cumulative childhood risk experiences predict frequency of contact between him and his children in the separate categories of phone calls, mail, and visits. These variables are essentially ordinal, but each response category signifies a frequency that can be considered a count of the number of contacts. A regression analysis with a count outcome variable often relies on the Poisson model (Long & Freese, 2006). Use of that model requires a Poisson distribution of the outcome variable where the mean equals the variance. This is because a Poisson regression makes the assumption "that every subject within a covariate group (a population that has all the same values for X_1, X_2, \dots, X_p) has the same underlying rate

of the outcome” (Jewell & Hubbard, 2006, p. 14). If the outcome variable’s mean is not equal to the variance, the Poisson model may not appropriate.

In this study’s data set, all three outcome variables were highly skewed with a significant number of “Never” responses that were scored as zero. This over dispersion indicated that the Poisson model was likely not the best fit for the data. In cases of over dispersion in the distribution of the outcome variable, the Poisson model will underestimate the standard errors even when all of the correct variables are included in the model (Long & Freese, 2006). This creates a “liberal” bias in the Poisson model because it will claim statistical significance where none exists.

In this case, use of the Poisson model will underestimate the count and the negative binomial regression model provides a better fit because it adds an error term to account for the unobserved heterogeneity among observations (Long & Freese, 2006). The negative binomial model can be considered a generalization of Poisson; it accounts for greater than Poisson variation with the same mean structure and an extra parameter to model the over dispersion (Jewell & Hubbard, 2006). Negative binomial regression will be more conservative than the Poisson regression when there is over dispersion. Jewell & Hubbard (2006) note that there is a theoretical justification for use of the negative binomial model in cases of over-dispersion, “because we often expect that we have not collected all the explanatory variables relevant to explaining the variation in the underlying rates of outcomes among the study subjects” (p. 15). To determine if the negative binomial regression is a better fit for the data over the Poisson regression, information measures such as the Akaike’s and Bayesian information criterion can be

used to compare the two models (Long & Freese, 2006). While the distribution of the outcome variables for this thesis indicated that the Poisson model was most likely not the best fit for the data, these comparisons were examined to confirm that possibility.

Table 3.1

Descriptive Statistics for All Males in the SISCF Sample, All Fathers, and Fathers with At Least One Minor Child

	All males in SISCF				All fathers in SISCF				Fathers w/ child < 18			
	Mean or %	SD	Range	N	Mean or %	SD	Range	N	Mean or %	SD	Range	N
Inmate's Family of Origin Variables												
More than 4 siblings	42%			11379	44%			4891	42%			3719
Lived in foster care/institution	12%			11234	12%			4832	13%			3669
Parents received welfare	36%			11122	37%			4759	40%			3607
Lived in public housing	18%			11304	19%			4864	22%			3692
Parent abused drugs/alcohol	32%			11375	32%			4889	33%			3714
Experienced parental incarceration	20%			11324	20%			4875	23%			3705
Childhood Risk Index Score	1.61	1.40	0-6	11476	1.64	1.40	0-6	4921	1.72	1.43	0-6	3738
• 0	25%				24%				23%			
• 1	29%				30%				28%			
• 2	20%				20%				21%			
• 3	14%				15%				16%			
• 4	7%				8%				8%			
• 5	3%				3%				4%			
• 6	1%				1%				1%			
Individual Variables												
Age	35.27	10.71	16-84	11569	36.82	10.9	17-84	4928	32.87	8.25	17-67	3739
Race/Ethnicity				11553				4920				3732
• Hispanic	17%				16%				18%			
• Black	44%				47%				48%			
• Native American	3%				3%				3%			
• White	34%				32%				29%			
• Other	2%				1%				2%			
Marital Status				11541				4921				3732
• Married	16%				16%				15%			
• Widowed	2%				2%				1%			
• Divorced	19%				26%				21%			
• Separated	5%				6%				6%			
• Never Married	58%				50%				57%			
Education (in years)	10.77	2.33	0-18	11426	10.78	2.32	0-18	4903	10.72	2.16	0-18	3719

Table 3.2

Descriptive Child & Family-level Statistics for All Fathers in the SISCF Sample and for Fathers with At Least One Minor Child

	All fathers			N=4928	Fathers w/ child < 18			N=3739
	Mean or %	SD	Range	N	Mean or %	SD	Range	N
Child(ren) Characteristics								
Average age of 10 youngest children	13.34	9.11	0-48	4928	9.51	5.71	0-32	3739
Total no. of children	2.34	1.79	1-24	4918	2.32	1.74	1-21	3739
Child's guardian receiving welfare benefits	20%			3119	27%			3119
Father's Pre-incarceration Commitment								
Lived with children	12%			3738	16%			3738
Primary source of financial support	31%			3730	41%			3730
Father Commitment Index	0.57	0.70	0-2	3738	0.57	0.70	0-2	3738
• 0	42%				56%			
• 1	24%				32%			
• 2	10%				13%			
Father-child Contact Variables								
Frequency of calls				4917				3735
• Never	53%				52%			
• Less than once a month	16%				15%			
• At least once a month	14%				14%			
• At least once a week	14%				15%			
• Daily or almost daily	3%				4%			
Frequency of mail				4914				3734
• Never	37%				36%			
• Less than once a month	20%				19%			
• At least once a month	23%				23%			
• At least once a week	17%				19%			
• Daily or almost daily	3%				4%			
Frequency of visits				4915				3736
• Never	64%				63%			
• Less than once a month	22%				21%			
• At least once a month	9%				10%			
• At least once a week	4%				5%			
• Daily or almost daily	1%				1%			
Allowed calls	84%			4878	83%			3705
Allowed visits	65%			3509	63%			2603

Chapter 4: Results

Before analyzing the data, a correlation matrix of the predictor variables was created to check for multicollinearity. These correlations are presented in Table 4.1. There was a strong correlation between the average age of the children and the inmate's age (0.81), as well as with the number of children (0.75). To determine if this multicollinearity would present a problem, Variance Inflation Factors (VIF) were obtained for these variables. For the three separate outcome variables, the VIF for inmate age ranged from 3.28 – 3.36, for average child age from 3.12 - 3.20, and for number of children from 1.28 – 1.29. These VIF values indicated that the standard errors for the variables were multiplied by a factor of between 1.13, for number of children, up to 1.83 for inmate age. As these are all control variables, this inflation of the standard error was not a concern and all of these predictors were included in the final model (Agresti & Finlay, 1997).

To determine if a negative binomial regression model (NBRM) would be a better fit for the data than a Poisson regression model (PRM), the Bayesian information criterion (BIC) and Akaike's information criterion (AIC) for each model were generated. For both the BIC and AIC, the model with the smaller value is considered a better fit with a difference of 10 considered as large (Long & Freese, 2006). In the comparison of the two models for all three types of contact, as seen in Table 4.2, for each outcome variable the AIC was smaller for the negative binomial model. In addition, the BIC was much smaller in the negative binomial model for both calls and visits and only slightly larger in the Poisson model for mail contact. Ultimately, considering the very large differences for

calls and visits and comparable fit for mail, the negative binomial regression was selected for the analysis of all three types of contact

Using a negative binomial regression model, the statistical analysis primarily sought to address the three hypotheses. This study isolated the effect of an incarcerated father's childhood risk on the frequency of contact he had with his children, statistically controlling for the effects of several relevant variables on contact. For all analysis, the estimated coefficients were transformed to incidence-rate ratios for ease of interpretation. An incidence-rate ratio (IRR) is obtained by exponentiating the regression coefficient and provides an estimated rate ratio of the change in the dependent variable for a one unit increase in the independent variable (Long & Freese, 2006). The dependent variable, frequency or count of father-child contact, is multiplied by the IRR value to determine the effect of an increase in the predictor variable. Whereas an IRR of less than one indicates a negative relationship between the predictor variable and contact, an IRR of greater than one specifies a positive relationship. This section will discuss the findings related to each of the hypotheses first, with relevant IRR values, then follow with the significance of the control variables.

The analysis supported the first hypothesis that an incarcerated father's childhood risk would predict the frequency of contact with his children. As seen in Tables 4.3, 4.4, and 4.5, there was a relationship between inmate childhood risk and contact frequency and this association was in the hypothesized direction, with increased risk predicting less contact. The relationship between risk and contact was most significant for visits (IRR = 0.85, $p < 0.000$), where a one unit increase in Childhood Risk Index reduced the rate of

visit frequency by 15%. For phone contact between an incarcerated father and his children, childhood risk was a significant predictor (IRR = 0.94, $p < 0.000$); each one unit increase in risk resulted in 6% fewer calls. The relationship between childhood risk and mail contact approached significance (IRR = 0.98, $p = 0.078$) and each additional childhood risk factor led to 2% less frequent mail exchanged between an incarcerated father and his children.

To test the second hypothesis, the three models were estimated with interaction terms of Black X Childhood Risk, Hispanic X Childhood Risk, and Education X Childhood Risk. For mail and call contact, none of the interaction terms approached significance and they were all deleted from the final model. In addition, the Education X Childhood Risk interaction was not a significant predictor of visit frequency and it was removed from the model. For visits, the interaction term of Black X Childhood Risk did significantly predict contact frequency (IRR = 1.12, $p = 0.032$) and the Hispanic X Childhood Risk interaction term neared significance (IRR = 1.14, $p = 0.051$). The statistical significance of these interaction terms indicated that minority status did moderate the relationship between childhood risk and visit frequency, as predicted. In addition, as projected by the second hypothesis, the effect of risk on visits was higher for black and Hispanic fathers compared to white fathers.

The third hypothesis predicted a non-linear relationship between father's childhood risk experiences and frequency of contact with his children. The quadratic term of Risk² was not significant in any of the models and was dropped for all three; this suggested that the association between childhood risk and contact was linear rather than

quadratic. The quadratic term did approach significance for call frequency (IRR = 0.98, $p = 0.142$). To explore this association graphically, Figure 4.1 plots mean call frequency and childhood risk. While the relationship between risk and call frequency visually appears linear for a Childhood Risk Index score of 0-5, there is a sharp drop in calls for fathers who have 6 risk factors.

Inmate individual level predictors were included in the model as control variables. This study found inmate age to be a significant predictor for all three types of contact and that the relationship between age and contact was negative. In relation to call frequency, each additional year of father's age resulted in 3% fewer calls (IRR = 0.97, $p < 0.000$). A one year increase in inmate age also correlated to 2% less mail (IRR = 0.98, $p < 0.000$) and 4% fewer visits (IRR = 0.96, $p < 0.000$). In addition, this analysis found that father's education was associated with more frequent contact. Education was a significant predictor for calls (IRR = 1.03, $p = 0.021$) and mail (IRR = 1.02, $p = 0.002$), but it was not significant for visits (IRR = 1.01, $p = 0.360$).

Minority status, which included black and Hispanic in this study, was of variable significance as a predictor of the three types of contact. In addition, the relationship between race/ethnicity and frequency of contact was the opposite for African American and Hispanic fathers when compared to their white counterparts. Black inmates had significantly more call contact (IRR = 1.15, $p = 0.011$), while Hispanic men exchanged significantly fewer calls (IRR = 0.74, $p < 0.000$) than whites. This means that black fathers made and received 15% more calls, while Hispanic fathers exchanged 26% fewer calls, with their children than white fathers. For mail, black fathers had significantly more

frequent contact than whites (IRR = 1.08, $p = 0.048$). Being Hispanic neared significance as a predictor of mail contact (IRR = 0.92, $p = 0.077$) and, once again, these fathers had less frequent contact with their children than white men. In the analysis of visit frequency, black men had significant more contact, roughly 28%, than white fathers (IRR = 1.28, $p < 0.000$). There was not a statistically significant difference in the frequency of visits for Hispanic compared to white fathers (IRR = 0.95, $p = 0.589$).

In terms of the relationship between marital status and frequency of incarcerated father-child contact, this study confirmed prior research. Fathers who were no longer married had significantly less contact with their children than those who were still married in all 3 domains measured in the current study; they had 19% fewer calls (IRR = 0.81, $p = 0.004$), exchanged 17% mail (IRR = 0.83, $p < 0.000$), and received 35% fewer visits (IRR = 0.65, $p < 0.000$) than their married counterparts. Those who had never been married also had significantly less phone call (IRR = 0.84, $p = 0.010$), mail (IRR = 0.82, $p < 0.000$), and visit (IRR = 0.68, $p < 0.000$) contact with their children than married fathers.

This study also controlled for child and caretaker characteristics. Number of children was a statistically significant predictor of call (IRR = 1.06, $p < 0.000$) and mail (IRR = 1.04, $p < 0.000$) frequency and it approached significance for visits (IRR = 1.03, $p = 0.084$). For all three types of contact, having more children led to more frequent contact and this ranged from 3 to 6% more contact for each additional child. The average age of the inmate's children, up to the 10 youngest, was a significant predictor of contact in two domains; for calls (IRR = 1.02, $p = 0.009$) and mail (IRR = 1.02, $p = 0.001$).

Average child age approached significance as a predictor of visits (IRR = 1.02, $p = 0.057$). For all three types, a one unit increase in average child age resulted in 2% more frequent contact.

To control for the financial resources of the child's caretaker, the model included a guardian poverty predictor variable. Guardian poverty did not reach significance for visit frequency (IRR = 0.98, $p = 0.762$), but it was significant for mail (IRR = 1.07, $p = 0.045$), and phone calls (IRR = 1.15, $p = 0.010$). Paradoxically, the call and mail frequency between incarcerated fathers and their children was greater for children living with a guardian who was receiving welfare benefits than for those who were not. Despite the high cost, incarcerated fathers had 15% more phone calls when their children were living in poverty.

Finally, this model included a measure of the father's pre-incarceration commitment to his children to control for the amount of connection they had before he went to prison. The Father Commitment Index score was a summation of dichotomous responses to questions about whether the inmate lived with his children and whether he was their primary source of financial support prior to incarceration. This index variable was a highly significant predictor for all three types of contact. For each one unit increase in Father Commitment Index score, call frequency increased by 23% (IRR = 1.23, $p < 0.000$), mail by 16% (IRR = 1.16, $p < 0.000$), and visits by 23% (IRR = 1.22, $p < 0.000$). Not surprisingly, those fathers who demonstrated a high level of commitment to their children prior to incarceration had more frequent contact during their imprisonment.

Table 4.1

Predictor Variable Correlation Matrix

	1	2	3	4	5	6	7	8	9
1 Childhood Risk Index	1.00								
2 Inmate Age	-0.15	1.00							
3 Race/Ethnicity	-0.07	0.11	1.00						
4 Marital Status	0.09	-0.32	-0.10	1.00					
5 Education	-0.14	0.09	-0.07	0.07	1.00				
6 Average Child Age	-0.08	0.81	-0.04	0.36	0.05	1.00			
7 Number of Children	0.02	0.39	0.08	0.24	0.03	0.75	1.00		
8 Guardian in Poverty	-0.12	0.14	-0.03	0.10	0.06	0.19	-0.04	1.00	
9 Father Commitment Index	-0.04	-0.06	0.06	0.00	-0.02	-0.10	0.09	-0.07	1.00

Table 4.2

Comparison of BIC and AIC for Poisson and Negative Binomial Models

	Calls		Mail		Visits	
	PRM	NBRM	PRM	NBRM	PRM	NBRM
BIC	7450	7300	9256	9261	6145	6059
AIC	7380	7225	9185	9183	6062	5971

Table 4.3

Negative Binomial Regression for Call Frequency (N = 2427)

Variable	IRR	SE	Confidence Interval
Childhood Risk Index	0.94***	0.02	0.91 – 0.97
Inmate Age	0.97***	0.01	0.96 – 0.98
Inmate Education	1.03*	0.01	1.00 – 1.05
Number of Children	1.06***	0.02	1.03 – 1.09
Average Age of Children	1.02**	0.01	1.00 – 1.03
Guardian in Poverty	1.15*	0.06	1.03 – 1.27
Father Commitment Index	1.23***	0.04	1.16 – 1.31
<i>Marital Status</i>			
Married (Reference)	-	-	-
Never Married	0.84*	0.06	0.73 – 0.96
No Longer Married	0.81**	0.06	0.70 – 0.93
<i>Race/Ethnicity</i>			
White (Reference)	-	-	-
Black	1.15*	0.07	1.03 – 1.29
Hispanic	0.74***	0.06	0.63 – 0.86
Constant	1.40	0.30	0.92 – 2.13

Note: † p < .10, * p < .05, ** p < .01, *** p < .001

Table 4.4

Negative Binomial Regression for Mail Frequency (N = 2948)

Variable	IRR	SE	Confidence Interval
Childhood Risk Index	0.98†	0.01	0.96 – 1.00
Inmate Age	0.98***	0.00	0.97 – 0.99
Inmate Education	1.02**	0.01	1.01 – 1.04
Number of Children	1.04***	0.01	1.02 – 1.06
Average Age of Children	1.02**	0.01	1.01 – 1.03
Guardian in Poverty	1.07*	0.04	1.00 – 1.15
Father Commitment Index	1.16***	0.03	1.11 – 1.22
<i>Marital Status</i>			
Married (Reference)	-	-	-
Never Married	0.82***	0.04	0.75 – 0.89
No Longer Married	0.83***	0.04	0.75 – 0.91
<i>Race/Ethnicity</i>			
White (Reference)	-	-	-
Black	1.08*	0.04	1.00 – 1.17
Hispanic	0.92†	0.05	0.83 – 1.01
Constant	1.62**	0.23	1.22 – 2.15

Note: † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Table 4.5

Negative Binomial Regression for Visit Frequency (N = 2758)

Variable	IRR	SE	Confidence Interval
Childhood Risk Index	0.85***	0.03	0.78 – 0.92
Inmate Age	0.96***	0.01	0.95 – 0.97
Inmate Education	1.01	0.01	0.99 – 1.04
Number of Children	1.03†	0.02	1.00 – 1.07
Average Age of Children	1.02†	0.01	1.00 – 1.03
Guardian in Poverty	0.98	0.06	0.87 – 1.11
Father Commitment Index	1.22***	0.05	1.13 – 1.32
<i>Marital Status</i>			
Married (Reference)	-	-	-
Never Married	0.68***	0.05	0.59 – 0.80
No Longer Married	0.65***	0.06	0.56 – 0.79
<i>Race/Ethnicity</i>			
White (Reference)	-	-	-
Black	1.28***	0.09	1.11 – 1.47
Hispanic	0.95	0.09	0.80 – 1.14
Black X Risk Interaction	1.12*	0.05	1.01 – 1.21
Hispanic X Risk Interaction	1.14†	0.07	1.00 – 1.28
Constant	2.42**	0.62	1.46 – 4.00

Note: † p < .10, * p < .05, ** p < .01, *** p < .001

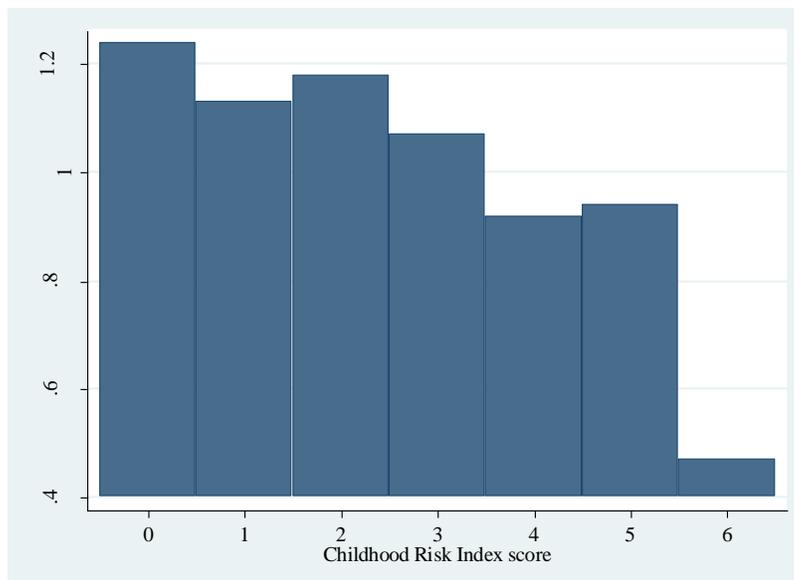


Figure 4.1. Graph of Mean Call Frequency by Childhood Risk Index.

Chapter 5: Discussion

To date, there are very few studies that examine the factors that impact how frequently an incarcerated father has contact with his children. Although the research is clear that outcomes for these vulnerable fathers and children are often improved when they maintain contact during the father's imprisonment (Bernstein, 2005; Hairston, 2007; Johnston, 1995b; ; Visher & Travis, 2003), little is known about why some fathers have more contact with their children than others. This study fills a gap in the literature by demonstrating that a father's cumulative childhood risk experiences have a significant impact on father-child contact. It also found that the effect of risk is greatest on the frequency of calls and visits between incarcerated fathers and their children. Furthermore, the analysis indicated that the effect of risk on the frequency of visits is increased for

black and Hispanic men, a finding that confirmed the hypothesis that minority status would serve as an additional risk factor and further impede father-child contact.

Childhood Risk Matters

As highlighted in the literature review (Fraser & Richman, 1999; Rutter, 1979), negative experiences in childhood are considered risk factors because they have been linked to poor outcomes in a variety of domains. Research has also found a correlation between an individual's family environment in childhood and the quality of their subsequent adult relationships (Repetti et al., 2002) and demonstrated that childhood risk experiences impact family relationships specifically among male inmates (Eddy, et al., 2010). In order to expand on the current research, this study examined the connection between childhood risk experiences and incarcerated father-child contact. By creating a Childhood Risk Index using six established childhood risk experiences, all of which are correlated to poor social, behavioral, emotional, and psychological developmental outcomes, this study found that experiences in his family of origin do impact the frequency of contact an inmate has with his children.

While this study did not examine causal mechanisms for the relationship between childhood risk and father-child contact, it is possible to speculate about what some of those might be based on the literature. If cumulative negative experiences in childhood affect a young man's social-emotional development (Sameroff, et al., 1998), it is possible that he will enter adulthood without the necessary skills to develop healthy relationships. Psychological and behavioral problems, which have been found to be correlated with cumulative risk in prior research (Appleyard, et al., 2005; Evans, 2003; Rutter, 1979) are

also likely to affect the quality of adult relationships. An incarcerated father depends on his social ties to others to maintain a connection with his minor-age children. Although older children may be able to maintain contact with their fathers independently of other adults in their lives, this is not the case for younger children. Therefore, the strength of the relationship that an inmate has created with his family members and/or the child's caretaker will necessarily impact the amount of contact he has with his children.

While the child may not be able to maintain contact with the incarcerated father independently, it is unlikely that a child who does not want to have contact with his or her father can be forced to do so regularly. Conversely, a child who is especially eager to see his or her father may be able to encourage adult family members to allow or facilitate more frequent contact. Therefore, the relationship that a father in prison creates with his child is also likely to impact the frequency of their contact. An incarcerated father's personal developmental process is expected to affect father-child contact through relationships with both his children and the other adults in their lives who can facilitate that contact.

Childhood risk matters most for visits and calls. This study found that the effect of childhood risk on contact was highest for visits and phone calls. Each additional childhood risk experience was associated with 15% fewer visits and 6% fewer calls, compared to 2% less mail. It is possible that these findings can be explained by the fact that visits, compared to phone calls and mail, take more effort on the part of family members. Visiting an inmate in prison often involves extensive travel time and expense, long waits, and a demeaning check-in process (Arditti, Lambert-Shute, & Joest, 2003;

Christian, 2005). In short, it requires significant effort and commitment on the part of the caregiver and children. Those caregivers and other family members with weak ties to the inmate may simply be unwilling to make such a sacrifice. Because children cannot coordinate visits on their own, weak family ties likely reduce the frequency of inmate-family contact. It is also probable that the expense of phone calls and visits to/from prison requires a higher level of commitment from the child's caregiver and that this may be weakened among fathers with more childhood risk factors. Furthermore, the fact that risk was more strongly correlated to reduced visits may also be due to the fact that children are able to independently establish phone call and mail contact with their incarcerated fathers more readily than they are able to autonomously initiate visits to prison.

Childhood risk matters more for visits among minority fathers. As predicted in the second hypothesis that suggested minority status would serve as an additional risk factor, the effect of childhood risk on visit frequency was higher for black and Hispanic fathers. Compared to white men, the effect of risk on visits was 1.12 times greater for blacks and 1.14 times greater for Hispanic fathers. This means that among fathers with the same number of risk factors, those who were non-white had less frequent visits with their children than white men.

One possible explanation for these findings is the effect of minority status on developmental outcomes. African American and Hispanic children are more likely to experience poor outcomes in a variety of physical, psychological, and educational domains (Children's Defense Fund, 2007; McLoyd, 1998; McRoy, 2008). This explains why minority status is an established risk factor (Bauman, et al., 2006; Sameroff, et al.,

1998). Research has found that the racially discriminatory treatment experienced by minorities plays an important role in differential health outcomes (Bratter & Gorman, 2011; Fujishiro, 2009), in part because discrimination operates as a stressor (Schnittker & McLeod, 2005). As mentioned previously, it is likely that the emotional and financial resources required of family and friends when visiting an inmate demand a particularly strong connection. Perhaps minority status increased the effect of childhood risk on father-child visit frequency in this study because it served as an additional risk experience in the inmate's life and impeded his development such that he was not able to successfully create the social ties necessary for regular visits.

It is not uncommon to find minority status used as a proxy for socioeconomic risk in research because minorities are more likely to experience poverty and to have reduced educational and economic opportunities (Lillie-Blanton & Laveist, 1996). It has also been suggested that the correlation between minority status and reduced family stability reflects class differences in family structure and racial/ethnic disparities in social and economic resources (Hummer & Hamilton, 2010). For these reasons, it is possible that minority status increased the effect of an inmate's childhood risk experiences on visit frequency because it reflected the underlying poverty status of the entire family. Due to the high costs of travel to often remote prisons, fewer economic resources would likely impact the frequency of incarcerated father-child visits.

The control variables included in the study's model served to both confirm other research and add new information. Although prior studies (Farrie, et al., 2011; Waller & Swisher, 2006; Wilkinson, et al., 2009) have provided contradictory findings about the

correlation between a father's age and his level of participation in the father-child relationship, this thesis found that older fathers have less frequent contact with their children. It is possible that older fathers have been in prison longer and that the length of time separated from their children has diminished the strength of their connection. Another explanation for this finding is that older inmates may have been in and out of prison multiple times and that this repeated disruption would damage the social ties necessary to facilitate father-child contact. Unfortunately, these possible explanations could not be explored by this thesis due to limitations in the data.

Confirming earlier studies (Hairston, 1998; Modecki & Wilson, 2009), this study found that fathers with more education and those who were married maintained more frequent contact with their children. It is possible that men with more education have greater awareness about the importance of father engagement to child development and this motivates them to maintain more frequent contact. Other studies have found that increased education is correlated to more responsive and less restrictive parenting practices (Modecki & Wilson, 2009), which are likely to improve the father-child relationship and facilitate a meaningful connection. While the interaction between childhood risk and education was not significant in this analysis, demonstrating that less education does not serve as an additional risk factor, it may be that the poor outcomes that are associated with lower levels of education hinder an inmate's ability to create the strong social ties which are required for the maintenance of relationships during incarceration.

While other researchers have noted that fragile fathers with more children were less engaged than those with fewer (Woldoff & Washington, 2008), this study found the opposite. It is possible that having more children increases the odds that at least some of them will visit during the father's incarceration. It may also be true that the responsibilities of maintaining a connection to his children are less burdensome and/or more important to a father in prison than one on the outside.

Although this study found that fathers with older children had more frequent contact, a finding that contradicted other research on father-child relationships (Parke, 1996), it is important to qualify these results. The variable for children's age is calculated by taking the average age of the inmate's 10 youngest children, including adult children. Although all of the fathers in the sample had at least one child under the age of 18, many of them also had adult children. It is probable that the increase in contact for men with older children reflects the fact that adult children are able to visit prison independently.

One finding from the current study that did conclusively confirm prior research (Carlson & McLanahan, 2002; Wilkinson, et al., 2009; Woldoff & Washington, 2008) is that those fathers who demonstrated a higher level of commitment to their children before incarceration had more frequent contact with their children in all three domains. It is not surprising that the men who lived with their children and/or were the children's primary source of financial support before incarceration maintained more frequent contact while in prison. Those fathers openly displayed a commitment to their children and likely were a significant presence in the children's lives, making separation more difficult and continued contact more meaningful. The demonstration of a prior commitment on the

father's part may also have increased the caretaker's willingness to maintain the father-child connection.

Caretaker poverty status was included as a control variable because it seemed likely that financial resources might be related to frequency of contact, especially because phone calls and visits to prison can be very expensive (Hairston, 2001). While not a perfect measure, caretakers who were reported by inmates to be receiving welfare benefits were classified as living in poverty. Ironically, fathers exchanged significantly more frequent phone calls and mail with their children when the caretaker received welfare benefits. These findings might be explained by the caretakers with fewer resources for visiting using alternative strategies to maintain contact between the children and their incarcerated father. There is anecdotal evidence that imprisoned fathers are finding creative ways to parent when their children live far away and are not able to visit regularly, such as getting the child a cell phone with a number within the local network of the prison. Such creative measures for staying in contact despite barriers to regular visitation may help explain this study's findings.

Race and Ethnicity Predict Contact

Perhaps the most significant finding from the control variables was that compared to white fathers, black fathers had more frequent contact with their children, while Hispanic men had less contact. This was true for all three types of contact. These findings both confirm and contradict other studies. One study found that contact between non-resident fathers and their children was most frequent for white men, followed by black fathers, with the least amount of contact for Hispanics (King, et al., 2004). Another

found that among unmarried non-resident fathers, non-white men had slightly more contact than whites (Argys et al., 2007). In an analysis of fathers in the Fragile Families and Child Wellbeing Study, black and Hispanic men who were incarcerated had more frequent contact with their children than incarcerated white fathers (Swisher & Waller, 2008). Recent research on racial disparities in the prison population provides some possible explanations for this study's findings.

One is that incarceration has become an increasingly normative experience for minority men (Western & Pettit, 2010). As higher numbers of young minority men have become incarcerated, some researchers have argued that the stigmatization has also been reduced for families from these communities (Hairston, 2003; Schneller, 1976). It has been suggested that, "the pervasiveness of incarceration within disadvantaged African American and Latino communities has made incarceration an almost expected stage in the life course, perhaps lessening its stigma" (Swisher & Waller, 2008, p. 1071). With less stigma attached to visiting a family member in prison and the realities of having so many community members incarcerated, perhaps it is emotionally easier for minority families to embrace prison phone calls and visiting as a normative life experience. While this argument does not explain this study's finding that Hispanic men experienced less frequent contact than white fathers, it does provide a possible explanation for the fact that African American fathers had significantly more contact.

It has also been found that family and kinship ties are more important to non-resident black fathers than white fathers (King, et al., 2004) and this is likely to impact their commitment to maintaining contact. In addition, it is possible that differences in

family structures, family unity, and resilience in black families may leave women more willing to trust the fathers of their children than similarly situated white women. One study found that the effect of a father's incarceration on a mother's level of distrust in him was significantly weaker for black men and this led the authors to suggest that these mothers were more likely than white women to maintain relationships with the fathers of their children despite incarceration (Swisher & Waller, 2008).

Perception of the criminal justice system may be another factor that impacts a caretaker's willingness to support contact between children and their incarcerated fathers. Studies find that black and Hispanic individuals are more likely than whites to perceive the criminal justice system as unjust (Swisher & Waller, 2008). These perceptions are believed to be associated with the increased number of encounters with police in communities characterized by poverty and crime (Hagan, Shedd, & Payne, 2005), as well as racial disparities in the policies and practices of the criminal justice system (Mauer, 2011). A belief that the criminal justice system is inherently unjust may cause family and friends to feel that the incarceration was due to factors beyond the father's control and to see his imprisonment as a challenge imposed by an unfair system rather than an indication of his personal failings (Swisher & Waller, 2008). It is likely that framing a father's incarceration in this way causes African American mothers, children, and other family members to feel less negatively about the inmate than their white counterparts and leaves them more committed to maintaining a relationship while he is in prison.

In her study of women visiting their partners who were incarcerated at San Quentin, Megan Comfort (2008) found that the women expressed a desire to combat what

they felt was the normalization of the prison experience. What these women feared has been conceptualized by researchers as *prisonization*, which is characterized by, “the incorporation of the norms of prison life into one’s habits of thinking, feeling, and acting” (Haney, 2003, p. 38). The women in her study purposely visited frequently in an effort to keep their men from becoming too comfortable with prison life by maintaining a connection to the outside world (Comfort, 2008). In another study of women visiting incarcerated male partners, it was found that as a result of routinely waiting together in the prison visiting room, a much-needed support network was formed (Christian, 2005). The women provided each other with social support to better manage the difficulties of having an incarcerated partner, the costs and hassle of visiting, and the pressures of raising children alone. For a significant number of minority women, visiting prison is a “normal” life experience that provides a source of social support and a way to combat the fear that their partners will become comfortable with prison life, which may help explain the current study’s findings that African American men experienced more frequent visits than white fathers.

However, the results of this study in terms of Hispanic incarcerated father- child contact are not so easily explained. Prior research has reached various conclusions about the involvement of non-resident and incarcerated Latino fathers in their children’s lives. Carlson & McLanahan (2010) noted that Hispanic and white non-resident fathers were similar in terms of frequency of contact with their children, while black fathers saw their children more frequently. It has been suggested that due to the high rate of non-marital births among black men, marriage and coresidency play less of a role in determining

father involvement compared to white and Hispanic men (Stier & Tienda, 2007). Two other studies found that Hispanic children were significantly less likely to have contact with their non-resident fathers than their black and white counterparts (King, Harris, & Heard, 2004; Tach, Mincy, & Edin, 2010). Researchers speculate that one possible reason for this finding is that Hispanic men are more likely to migrate for work and live far from their families. This may, in part, explain the current study's findings as well. If the incarcerated Hispanic men were physically separated from their families prior to going to prison, it may have been harder to maintain contact afterward. Conversely, another study found that incarcerated Hispanic fathers were much more likely than white and black fathers to have been living with their children before going to prison and to expect to live with them again upon release (Foster & Hagan, 2009). In this case, it would be expected that Latino fathers would have more frequent contact with their children due to increased pre-incarcerated commitment. The lack of consensus in prior research does little to help explain this study's findings that Hispanic fathers had the least amount of contact with their children. Instead, the findings here point to the need for additional research to unpack the complex interplay between race, ethnicity, and incarcerated father-child contact.

Implications

This study began with what is known about outcomes for incarcerated fathers and their children. Research clearly indicates that the long-term prospects for these vulnerable fathers are bleak (Carlson & McLanahan, 2002; Western, Pattillo, & Weiman, 2004), especially because cumulative lifetime disadvantage (Travis & Waul, 2003) is

compounded by high recidivism rates (Langan & Levin, 2002; Visser & Travis, 2003) and felon disenfranchisement (Wheelock, 2005). Studies find, however, that maintaining social connections to those on the outside during incarceration has the potential to both improve an inmate's adjustment to prison life (Jiang & Winfree Jr., 2006) and to reduce recidivism (Mills & Codd, 2008). Family ties maintained during incarceration are also correlated to increased success after release (Visser & Travis, 2003) and parolees report that family is an important resource for adjusting to life outside of prison (Bahr, Harris, Fisher, & Armstrong, 2010). For all of these reasons, it is important that criminal justice policies promote and facilitate family connections for inmates.

Recent U.S. policies such as welfare reform and paternity establishment for child support have been aimed at improving father involvement (Tamis-Le-Monda, Cabrera, & Thompson, 1999; Swisher & Waller, 2008), but these policies have not generally been aimed at incarcerated fathers. The current study indicates that many incarcerated fathers are having reduced, or no contact with their children due to their own disadvantageous childhoods. Inmates' higher rates of childhood risk experiences undermine the very social ties that might otherwise facilitate their ability to maintain contact with their children. Interventions aimed at improving father-child contact should specifically address these childhood risk factors, through counseling and/or education, to help these men better understand the complex factors that shape their personal development and intimate relationships. While childhood experiences cannot be undone, their socio-emotional repercussions can be addressed and ideally, healed. Any intervention that teaches

relationships skills and fosters family connections during incarceration could benefit vulnerable fathers while they are in prison and after their release.

Research also notes that the children of incarcerated men face significant risk factors (Arditti, in press; Murray, 2010), which often lead to poor outcomes (Johnson, 2009). If the goal of policy is to improve outcomes for the at-risk children of incarcerated parents, it is imperative that research look back to the previous generation. Studies find that “linkages between parents' psychological well-being and their parental functioning may be traced back, at least to some extent, to the experiences parents had while growing up” (Belsky, 1984, p. 850). The current study’s analysis confirms this connection and highlights the importance of a father’s childhood experiences to the amount of contact he has with his children, contact that research has found to be beneficial for children in most cases (Hairston, 2007; Johnston, 1995). To impact the developmental trajectory for children of incarcerated fathers, policy aimed at increasing father-child contact seems an important starting point.

Improving outcomes for both incarcerated fathers and their children can be achieved by creating policies that, at a minimum, create no additional barriers to their contact. Ideally, the goal should be to construct policies and interventions aimed at improving the frequency of contact between these especially vulnerable fathers and their children. This can be accomplished through parenting programs for incarcerated fathers, family-friendly visiting policies and rooms, and family events in prison that allow fathers and their children to spend extended time together in a more relaxed setting. It is also possible to improve the frequency of father-child contact by developing creative,

inexpensive ways for them to stay in touch; video chats and e-mail are just two possibilities.

Furthermore, policy makers must acknowledge the impact on the entire family unit when they are creating criminal justice policies and building prisons (Parke & Clarke-Stewart, 2003). When a father is incarcerated, it impacts not only him and his children, but also their caretaker. The well-being of one member in a family system ultimately impacts the other members. One study found that increased father-child contact was associated with an improved alliance between the father and caretaker and that a higher parenting alliance reduced the parenting stress of incarcerated fathers, which improved in-prison adjustment (Loper, Carlson, Levitt, & Scheffel, 2009). In addition, caregivers have expressed a need for family-friendly visiting policies to facilitate father-child contact (Nesmith & Ruhland, 2011). When inmates are housed in remote locations that require considerable time and expense for visitors, or when visiting policies are restrictive, it only serves to make father-child contact more difficult for everyone involved.

Another priority should be the creation of what Farrington (2007) called risk-focused prevention programs that aim to reduce the number of risk factors children experience which are known to lead to increased rates of incarceration. By creating and supporting programs that improve developmental outcomes for individuals at all life stages, it may be possible to reduce the number of parents in prison; reducing poverty, improving education, creating jobs, and providing health care are all important components of a program aimed at preventing incarceration. Once at-risk men become

fathers, programs should help them overcome any personal challenges that might lead to incarceration and support the development of pro-social skills to help them stay connected to those who are most likely to incentivize staying out of prison. Helping vulnerable fathers stay connected to their kids before they go to prison and supporting contact with their children for those who become incarcerated may be an important way to combat the intergenerational transmission of risk.

Limitations and Directions for Future Research

Although this study will add significant information to the current literature on contact between incarcerated fathers and their children, it does have some limitations. Data regarding the inmate's offense type and sentence length could not be included in this study's statistical analysis due to large amounts of missing data. There may be a correlation between type of offense and the caretaker's willingness to facilitate father-child contact. It is also likely that how long an inmate has served or has left to serve on his sentence may impact his contact with kin on the outside. An examination of how variables related to offense and sentence affect father child-contact are an important component of future studies.

There may be men in this study's sample who are not allowed contact with their children due to harm they have caused. While an attempt has been made to eliminate men who are denied contact using the available questions in the SISCF, it is possible that some men have remained in the data set because they are allowed contact with people on the outside other than their children. This means that they could answer "Yes" to the questions that ask if they are allowed phone calls or visits when, in fact, they are not

permitted contact with their children. The inability to distinguish specifically who the men are allowed to contact on the outside is a significant limitation of the data set used in this thesis.

It is important to acknowledge that there are many family characteristics which might affect father-child contact that were not included in the SISCF data set. Perhaps the most significant omission is information about the caregiver's relationship with the father, which is not measured in the SISCF survey. Fathers in prison often report that their child's guardian, who is most frequently the mother, does not allow or limits father-child contact (Hairston, 2003; Roy & Dyson, 2005). Conflict with their child's caregiver or other family members is often cited as a major influence on the amount of contact an incarcerated father has with his children (Hairston, 1995; Hairston, 2003; Nurse, 2001). There are also fathers who choose not to have contact with their children while they are in prison (Nurse, 2002); some feel it is too emotionally painful for themselves or their children and others believe there is little they can do for their children while incarcerated (Hairston, 2003). Due to the fact that prisoners' families often experience shame, discrimination, and social stigmatization due to the incarceration of a loved one (Hairston, 2003), fathers and family members alike may choose to minimize contact as a protective measure. The data set used for this study did not provide information about whether a father chose to limit contact with his children voluntarily and this is a potential limitation.

There are many childhood risk experiences which have been established as significant predictors of psychological and socio-emotional outcomes but were either not

included in the survey or in this study due to analysis limitations. Those risk factors include harsh parental discipline (Haapasalo & Pokela, 1999), low parental supervision (Farrington, Loeber, Yin, & Anderson, 2002), physical or sexual abuse (Dube et al., 2001), high parental conflict (Fendrich, Warner, & Weissman, 1990), divorce (Amato, 2000; Fendrich, et al., 1990), low parental education (Agerbo, Nordentoft, & Mortensen, 2002), sibling substance abuse (Reinherz, et al., 2000), and parental depression (Fendrich, et al., 1990). Future research into the effects of childhood risk on incarcerated parent-child contact would benefit from an examination of these additional risk factors. It would also be helpful to know if specific risk factors have more of an impact on contact than others, although this is difficult to analyze statistically due to the high correlation between risk factors that often co-occur in an individual's life (Huesmann, Eron, & Dubow, 2002). Furthermore, the SISCF data set did not include information about the timing or duration of the childhood risk experiences. Research indicates that outcomes can vary based on these two factors (Evans, 2004).

It may be difficult to interpret the effects of the inmate's race in the research model due to the design of the survey. Allowing the respondents to choose more than one racial or ethnic category provided a more nuanced and multi-ethnic picture of how the inmates identify themselves, but it also made it difficult to isolate their ethnic status from a risk and resilience perspective. While using a phenotypical categorization intended to provide the best possible alignment between the racial categories offered in the survey and those that are often identified as distinct in our society, it is possible that the information on race was ultimately diluted by the use of this classification system.

It is likely that prison visiting policies have an effect on the frequency of incarcerated father-child contact, but no information on this topic was measured in the SISCF. This is a limitation of the current study and an important area for future research. Researchers have noted that prison visiting rooms often hinder the ability for inmates to meaningfully connect with family (Arditti, 2003; Hairston, 2001), but the specific ways in which this happens have not yet been closely examined and explained. Dyer et al., (2012) suggest that it would be valuable to compare the qualities of prison visitation policies and visiting rooms to determine how they affect father-child interactions; with the creation of concrete constructs to describe visiting areas, the link between the characteristics of visiting rooms and the quality of family interactions may be quantified. Knowledge about how the visiting environment specifically impacts family contact for inmates has the potential to inform future policy decisions.

Qualitative data can be helpful for better understanding causal mechanisms and would provide rich data about how the inmates feel their own childhood experiences affect their social ties (Bahr, et al., 2010). This type of data might also be useful for exploring the racial and ethnic differences in fathering and family patterns found in this and other studies (King, et al., 2004). Knowing more about these differences might foster an understanding of why this study found that incarcerated black fathers had more contact than white fathers did, and Hispanic men had the least contact of all. It might also help explain why childhood risk had more of an impact on incarcerated father-child contact for minority men. These are important topics for future research.

At the most basic level, more research is needed to determine exactly how parental incarceration affects child outcomes (Johnson & Easterling, 2012). The premise of this study is that paternal incarceration is generally harmful to children and that father-child contact has the potential to mitigate some of that harm. The more that is known about how the experience of having a parent in prison affects children, the more that can be done to improve their outcomes. Furthermore, research about specifically how and when incarcerated father-child contact improves the lives of these vulnerable fathers and children, as well as the caretakers, would provide policy-relevant information.

Although they are few in number, an evaluation of fathering programs in prison (Shannon, Wakefield, & Uggen, 2007) is necessary to determine if they are actually improving father-child relationships and increasing contact. While much recent research argues that these programs are an important tool for improving outcomes for both fathers and children (Eddy, Kjellstrand, Martinez Jr., & Newton, 2010; Parke & Clarke-Stewart, 2003; Toth & Kazura, 2010), program evaluations are necessary if these claims are to be substantiated. Evaluations of current parenting programs can provide information about what does and does not work to improve existing interventions and garner support for new programs. If interventions aimed at improving the parenting skills of incarcerated fathers actually improve their relationships, increase father-child contact, and improve outcomes for both fathers and children, then these programs should be considered worthy of attention and funding.

Conclusion

Structural inequality, childhood risk factors, punitive correctional policies, and poor personal choices have created a significant number of vulnerable men who must navigate the fatherhood role while separated from their children. These at-risk children suffer from the consequences of their fathers' cumulative risk, which is compounded by the singular experience of paternal incarceration. In addition, the cultural stigmatization of criminal activity often leaves the plight of these families out of the public discourse concerning where to allocate limited government funds for social service interventions. However, research makes clear that contact between incarcerated fathers and their children improves the trajectory for the children and fathers alike.

While little is known about the factors that predict the frequency of father-child contact, keeping these vulnerable families connected may be a valuable intervention tool. Researchers have noted that it is important not to categorize all non-resident fathers as a homogenous group and that interventions may be best tailored to different types of fathers (Cheadle, et al., 2010). If risk factors for reduced father-child contact among the vulnerable population of incarcerated fathers are identified, this information can inform interventions that specifically address the long term effects of these risk experiences and reduce the intergenerational transmission of risk.

Using the cumulative risk framework within an ecological theoretical perspective, the present study has filled a gap in the current research by demonstrating that an inmate's childhood risk experiences impact the frequency of contact he has with his children. It is important to keep in mind that even those incarcerated fathers with zero

childhood risk factors do in fact have a significant risk experience; all of these men are in prison and they share that common risk experience. This risk factor can impact an inmate's life course more than any childhood experience. While it is impossible to create an intervention that will fully mitigate the impact of incarceration on the outcomes of these vulnerable families, there may be many ways to intercede. For this reason, the ultimate goal of this research has been to examine family of origin risk experiences, while controlling for various individual and family level variables, to paint a clearer picture of whether childhood risk affects contact between incarcerated fathers and their children.

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