

# DISENTANGLING THE RISKS: PARENT CRIMINAL JUSTICE INVOLVEMENT AND CHILDREN'S EXPOSURE TO FAMILY RISKS

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## **Research Summary:**

*The analyses reported in this article are based on data from a longitudinal epidemiologic study of youth from 11 rural counties in North Carolina—the Great Smoky Mountains Study. Nearly half (47.4%) of the children in the population represented in this study had a parent or other parent figure who had been arrested as an adult. Analyses showed that parent risk factors (i.e., substance abuse, mental illness, and lack of education) had a significant direct effect on children's exposure to family risks. These parent risk factors were also associated with greater odds of parental involvement in the criminal justice system (CJS), which in turn, had a significant association with children's likelihood of experiencing two types of family risks (i.e., economic strain and instability), net the effect of parent risk factors. Parent CJS involvement, however, was not significantly associated with family risks related to family structure or quality of care. Exposure to risks in these latter domains was better explained by the direct effect of parental substance abuse, mental health problems, and lack of education.*

## **Policy Implications:**

*These findings provide empirical evidence that parent CJS involvement is significantly related to children's exposure to certain types of family risks independent of the possible confounding effect of parent risks. The fact that the two domains of family risks that were associated with CJS involvement were economic adversity and family stability is noteworthy as these mirror two of the ecological correlates of crime that are thought to be perpetuated by high levels of incarceration—poverty and population mobility. Second, these findings suggest that it is unrealistic to expect correctional programs that focus on inmates' relationships*

*with their children to single-handedly impact intergenerational incarceration. Programs of this nature may play an important role in offsetting some of the more immediate adverse effects parental incarceration might have on children, but these analyses suggest that they need to be coupled with rehabilitation efforts that target parental substance abuse, mental health problems, and inadequate education. This conclusion is made because although parent CJS involvement carries its own risks for children experiencing certain family risks (i.e., economic strain and instability), these parent problems are still significant predictors of the same as well as other family risks, which in turn, past research has linked to adverse youth outcomes such as substance abuse and delinquency.*

**KEYWORDS:** Incarceration, Unintended Consequences, Delinquency, Risk Factors, Social Disorganization, Crime

This article describes analyses that were conducted to examine whether children's exposure to certain family risks (i.e., changes in family structure, economic strain, inadequate care, and instability) that have been attributed to parents' criminal justice system (CJS) involvement might alternatively be explained by parent risk factors (i.e., substance abuse, mental illness, and inadequate education). The specific hypothesis that was tested was that parent CJS involvement mediates the effect of parent risks on children's exposure to family risks.

Using data from the Great Smoky Mountains Study, a longitudinal epidemiologic study of youth from 11 counties in western North Carolina, a series of four regression models was fitted. The purpose of the first model was to determine whether, in fact, there was a significant direct relationship between parent risks and family risks. The second and third, respectively, determined whether parent risk factors were significantly associated with parent CJS involvement and whether CJS involvement was significantly associated with family risks. The critical model is the fourth in which the effect of both parent risks and parent CJS involvement on family risks was modeled simultaneously. This last model addresses the key question of whether family risks attributed to parent CJS involvement are just a coincidence of the fact that the CJS selects for parents with problems that are linked to family risks or whether parent CJS involvement itself makes a unique contribution to children's exposure to family risks. If children's exposure to family risks is actually due to the problems of parents who are involved in the CJS, then one would expect parent problems, but not parent CJS involvement, to be significantly associated with family risks when the two are considered together in the same model. On the other hand, if parent CJS involvement itself increases children's

## PARENTAL CRIMINAL JUSTICE INVOLVEMENT 679

exposure to family risks, then one would expect it to be significantly related to family risks and to see a decrease in the effect of parent risks on children's exposure to family risks when the two are accounted for in tandem.

### BACKGROUND

Over the past 25 years, the criminal justice population in the United States has grown from 1.8 to 6.9 million people (Pastore and McGuire, 2006). Because of this expansion, an unprecedented number of children have parents who have come under the supervision of criminal justice authorities (Mumola, 2000). In the last decade, there were concerted efforts by researchers and journalists to chronicle the life experiences of these children (e.g., Bernstein, 2005; Bloom and Steinhart, 1993), and as accounts of their situations began to circulate, concerns were voiced that expanding the criminal justice system was potentially detrimental to children, their families, and the communities in which they live (Hagan and Dinovitzer, 1999; Johnston and Carlin, 1996; Rose and Clear, 1998).

This particular article is concerned with the potentially detrimental effects parent CJS involvement may have on children's family situations (i.e., family risks). There are several ways in which family risks might be affected by the arrest and/or incarceration of a parent. First, the arrest and incarceration of parents may have both an immediate and a long-term effect on the structure of families. There is evidence, for example, that the arrest of parents disrupts marital relationships, separates children and parents, and may contribute to the permanent legal dissolution of these relationships (Beckerman, 1998; Hairston, 1991; Lowenstein, 1986; Mumola, 2000). It may also contribute to the establishment of grandparent-headed households (Barnhill, 1996) and, upon parents' return home from prison, to three-generation households (Harm and Phillips, 2001).

Second, there is evidence of both short- and long-term financial consequences associated with arrest and incarceration (Allard, 2002; Austin and Irwin, 2000; Fishman, 1990; Freeman, 1992; Grogger, 1995; Hirsch et al., 2002; Kling, 1999; Nightingale and Watts, 1996; Sampson and Laub, 1993). Consequently, parent involvement with the CJS may contribute to household poverty. Third, as a result of changes in family structure and economic adversity, children are thought to be at risk for experiencing inadequate care (Johnston and Carlin, 1996). And, finally, the arrest of a parent may trigger a series of moves or force children to live with a series of different caregivers; thus, it may contribute to family instability (Barnhill, 1996; Harm and Thompson, 1995; Hungerford, 1993; Stanton, 1980). Empirical evidence supporting these last two purported consequences (i.e., inadequate care and family instability) is more modest than evidence

supporting the first two (i.e., changes in family structure and economic adversity).

One must be careful, however, in attributing these family risks to parents' involvement with the CJS because these same situations (e.g., divorce, parent-child separation, economic strain, instability, large households, and so forth) also occur when parents have problems such as substance abuse, mental illness, or inadequate education (Ammerman et al., 1999; Costello et al., 2002; Cuffe et al., 2005; Gil et al., 1998; Oyserman et al., 2000; Walsh et al., 2003). These problems are found at higher rates among individuals who are involved in the CJS than among individuals in the general population (Jordan et al., 2002; Mumola, 1999; Robins and Reiger, 1991; Steadman et al., 1991). Few studies, however, have accounted for the effect these problems might have on children's life experiences when examining the consequences of parent CJS involvement for children (c.f., Murray and Farrington, 2005; Phillips et al., 2002). In fact, despite diligent and earnest efforts to understand how children may have been impacted by the incarceration of record numbers of parents, research on the consequences of parental incarceration for children is often lacking in methodological rigor. As has been noted by others, it is not uncommon for studies to employ convenience samples and non-standardized measures, or to rely on second-hand accounts of children's experiences obtained, in many cases, from an absent parent (Johnston, 1995; Murray and Farrington, 2005). Findings from these studies, nonetheless, have been used to call attention to the fact that the actions the criminal justice system takes with respect to parents have possible repercussions for children and have provided useful insight into what might be some of those repercussions. The problem is that the generalizability of the results of this research is often unclear and that it is difficult to determine the scope or magnitude of the effects of parental incarceration (see Lynch and Sabol, 2004).

There is, however, another source of information that might shed light on the relationship between parent involvement in the criminal justice system and its consequences for youth. Several studies of representative samples of youth in the general population have collected information about parental arrest and the criminal justice sanctions imposed on parents (e.g., Caring for Children in the Community, Cambridge Study in Delinquent Development, Great Smoky Mountains Study, and Pittsburgh Youth Study). In analyzing these data, however, parental arrest has typically been interpreted as an indicator of children's exposure to antisocial parent behavior (see, for example, Farrington et al., 2001). That being the case, the implicit assumption is that any adverse effects associated with parental arrest or incarceration are attributable to the actions of parents (or genetic factors that might explain parents' actions) as opposed to the actions

## PARENTAL CRIMINAL JUSTICE INVOLVEMENT 681

authorities take in intervening with parents. This was not necessarily unreasonable. For the vast part of the last century, most people involved in the criminal justice system had either committed particularly violent acts (e.g., murder, rape, aggravated assault) or serious property offenses (e.g., burglary, larceny, motor vehicle theft) (Blumstein and Beck, 1999). However, the composition of the criminal justice population has changed over the last two decades as more and more people with drug addictions have been incarcerated (Blumstein, 1998; Caplow and Simon, 1999). Consequently, the parent behaviors represented by parental arrest today may not be the same as in years past.

Noting similar limitations, Murray and Farrington (2005) recently used data from the Cambridge Study in Delinquent Development, one of the aforementioned population studies of youth, to test the hypothesis that parental imprisonment was a unique risk factor for boys' antisocial outcomes. In their analyses based on British boys born in the 1950s, they compared individuals who had been separated from their parents because of imprisonment with those separated from their parents for other reasons or not at all. Net the effect of parent and family risk factors, separation due to imprisonment was associated with significantly greater odds of antisocial outcomes in adolescence as well as in early adulthood. The risk factors taken into account were (1) parent neuroticism (a combined measure of parents' nervousness and psychiatric treatment), (2) poor attitudes of mothers and fathers (a combined scale of cruel, passive, or neglecting attitudes, and harsh or erratic discipline), (3) parents' degree of supervision of the boy, and (4) family sociodemographic characteristics (i.e., family income, family size, and social class).

The authors acknowledge several limitations to their study. The one of relevance to this article is that risk factors and parental imprisonment were measured at a single point in time, therefore, making it impossible to fully disentangle the effect of parental imprisonment from the effects of parent and family risk factors. As Murray and Farrington further note, to the extent that parental imprisonment actually *caused* children to be exposed to family risk factors, the results would have underestimated the effect of parental imprisonment because the analyses factored out the effect of these risk factors.

This brings us to the reason why disentangling the relationship between parents' involvement in the criminal justice system and children's exposure to family risk factors is important. There are well-established associations between family risk factors and children developing serious problems that could increase the risk of them becoming involved with the criminal justice system. Murray and Farrington examined antisocial behavior, but family risk factors have also been implicated in the developmental pathways of youth emotional and behavioral problems, including substance

abuse and conduct disorder. If, in fact, the criminal justice policies that have been put in place to deal with parents who have problems are adding to children's exposure to family risks, what the criminal justice system is doing to address crime in one generation could be counter-productive if it is indirectly increasing the odds of arrest in the next.

## METHODS

### SAMPLE

The Great Smoky Mountains Study (GSMS) is a longitudinal epidemiologic study of youth from 11 rural counties in western North Carolina (Costello et al., 1996). The oldest participants were born in 1979 and 1980 and therefore represent a population of children who grew up during a period when North Carolina's prison population, like that of other states, was undergoing dramatic growth.

GSMS employed an accelerated longitudinal design (Kleinbaum et al., 1982) with two-stage sampling. In the first stage, children ages 9, 11, and 13 years were randomly selected from all public school districts in the 11 participating counties ( $n = 4,500$ ). A mental health screening questionnaire based on the Child Behavior Checklist (Achenbach and Edelbrock, 1981) was administered to parents via telephone (or in person if the family did not have a phone). Of the 4,500 selected families, 9.6% were found to be ineligible (e.g., the child's date of birth was incorrect in the school database, the family no longer resided in the area). Of the 4,067 eligible families, 95.8% completed the screen. All children who scored above the 75th percentile were recruited into the study as was a 10% sample of children with lower scores. This resulted in a sample of 1,346 children of which 1,073 (80%) participated in the study.

The Qualla Boundary, home to the Eastern Band of the Cherokee Nation, is located in the target geographic region. Many American Indian children, however, attend reservation schools and were not included in the main sampling frame. Therefore, 9-, 11-, and 13-year-old American Indians from reservation schools were selected into a parallel study. A total of 431 youth were identified, of whom 347 (80%) participated in the study.

Combining the above samples results in a total sample of 1,420 children who entered the study when they were ages 9, 11, or 13 years. The data used in this study are based on interviews with each child and a parent (the biological mother in 84% of cases) conducted in person at baseline and annually up until children were age 16 years.

GSMS data are weighted so that the two samples (American Indian and other children) and two-stage sample design (oversampling youth with a greater likelihood of having emotional and behavioral problems and 10% of others) can be combined to represent the general population from

## PARENTAL CRIMINAL JUSTICE INVOLVEMENT 683

which they were recruited. Weights are inversely proportional to the sampling probability for young people selected via the two-stage sampling and reflect the known population proportion of American Indians in the 11-county region. The final sample, representing the population from which it was selected, is approximately 89.5% white, 6.8% American Indian, and 3.7% African American.

### CONSTRUCTS AND MEASURES

Information was elicited from youth and their parents using The Child and Adolescent Psychiatric Assessment (CAPA) (Angold et al., 1995), a highly structured interview consisting of required questions and probes. Items used in these analyses come from sections of the CAPA inquiring about children's family environment and life events. Test-retest results show life event recall to be reasonably reliable in children ages 7 to 16 years and in parents. Intraclass correlations are 0.63 for life events, with kappas for individual events ranging from 0.4 to 0.8 (Costello et al., 1998). Parent and child responses are both taken into account so that an event is counted as occurring if it was reported by either respondent. For the purpose of this study, items are grouped into three categories: (1) parent/caregiver CJS involvement, (2) parent/caregiver risk factors, and (3) family risk exposure.

*Parent/parent figure CJS involvement.* At each interview, child and parent respondents were asked whether children's parents or other significant parent figures (e.g., step-parent, adoptive parent) had ever been arrested as an adult. This includes both parents/parent figures with whom children were living at the time of the interview and parents/parent figures outside of the home. Information about parents outside of the home was included to capture parents who may have been incarcerated at the time of the interview or whose criminal justice system involvement may have otherwise played a role in their absence from the home.

When a respondent reported that a parent or other parent figure had been arrested, interviewers determined when the first arrest occurred, if the person was ever charged with an offense, and the worst result ever of any arrest. Possible response categories for worst result of a charge were: not guilty, fine, probation, treatment order, and incarceration/house arrest. The final category (i.e., incarceration/house arrest) admittedly combines two categories with potentially very different consequences for youth; however, according to interviewers, jail and prison sentences are vastly more common than house arrest.

For the purposes of these analyses, information on the worst outcome of an arrest from all waves was used to assign parents/parent figures to one of

three categories: (1) no contact with the CJS, (2) arrest but not incarceration (i.e., community supervision, fines, or arrest with no subsequent charges or a verdict of not guilty), and (3) incarceration/house arrest (acknowledging that the inclusion of house arrest in this category is a source of measurement error).

Including parents who were arrested and not charged, fined, or found not guilty with parents who received more serious sanctions is a different approach than the one used in previous analyses of GSMS data that have been concerned with parent *criminality*. In past analyses, parent criminal involvement was restricted to individuals with convictions in order to focus on parents who committed more serious offenses. The rationale for using a more inclusive definition in the current analyses is evidence indicating that the arrest of a parent, even if he or she is only absent for a brief period, may have economic repercussions for families, as may paying even relatively small fines (Grogger, 1995; Hinds, 1981). Further support for this choice is evidence that the arrest of a parent can trigger a disruption of care or a child's placement with strangers regardless of the subsequent outcome of the arrest (Phillips et al., 2004; Smith and Elstein, 1994).

*Parent/caregiver risk characteristics.* The parent/parent figure risk factors of interest in this study are substance abuse, mental health problems, and low educational attainment (leaving school before the 11th grade). Indicators of substance abuse and mental health problems are reports of parents/parent figures seeking or receiving treatment for these problems and, in the case of mental health, taking medications; thus, these are conservative estimates of these problems as they may not capture individuals who did not receive treatment. Baseline interviews inquired about substance abuse and mental health problems up until the time of the interview, and follow-up interviews covered the intervening periods between interviews.

*Family risk exposures.* Information from parents and children about children's exposure to family risks reflects condition or events during the three months preceding the baseline and annual interviews. These items represent factors that have been linked to the risk for serious youth problems in previous research. Family risk factors are categorized as (1) family structure, (2) household economic strain, (3) inadequate care, and (4) family instability. Indicators associated with each of these categories and their prevalence among children who did and did not have parents/parent figures with CJS involvement are found in Table 1.

## ANALYSES

Two key considerations guided the choice of statistical modeling approaches: (1) the need to account for within-subject correlation across waves and (2) the need to account for design effects due to the two-stage



PARENTAL CRIMINAL JUSTICE INVOLVEMENT 685

TABLE 1. PREVALENCE OF CHILDREN'S EXPOSURE TO RISK FACTORS BASED ON PARENT/ PARENT FIGURE INVOLVEMENT WITH THE CRIMINAL JUSTICE SYSTEM (CJS)

|  | No CJS<br>Involvement<br>(Weighted %) | CJS<br>Involvement<br>(Weighted %) | All Children<br>(Weighted %) |
|--|---------------------------------------|------------------------------------|------------------------------|
| <b>Parent/Parent Figure Risk Factors<sup>a</sup></b>     |                                       |                                    |                              |
| Substance abuse  | 17.1                                  | 74.4***                            | 29.84                        |
| Mental illness   | 24.3                                  | 42.4**                             | 29.30                        |
| Low education  | 15.1                                  | 28.7***                            | 18.16                        |
| Any of the above   | 43.7                                  | 87.4***                            | 53.45                        |
| <b>Family Risk Factors</b>                               |                                       |                                    |                              |
| <b>Structural</b>  |                                       |                                    |                              |
| Single-caregiver household                               | 19.8                                  | 33.3*                              | 22.8                         |
| Large size family (4 or more children in home)           | 3.4                                   | 4.5                                | 3.6                          |
| Placed in foster home <sup>a</sup>                       | 1.6                                   | 4.1*                               | 2.1                          |
| Any of the above   | 22.9                                  | 37.9*                              | 26.2                         |
| <b>Economic Strain</b>                                   |                                       |                                    |                              |
| Income below federal poverty level                       | 15.1                                  | 38.0***                            | 20.4                         |
| Unemployed parent/caregiver in household                 | 7.4                                   | 16.6***                            | 9.6                          |
| Economic crises leading to reduced standard of living    | 3.0                                   | 6.2***                             | 3.7                          |
| Unable to meet children's basic needs                    | 1.1                                   | 2.6                                | 1.4                          |
| Any of the above   | 19.9                                  | 45.1***                            | 25.5                         |
| <b>Inadequate Care</b>                                   |                                       |                                    |                              |
| Sexual abuse <sup>a</sup>                                | 2.7                                   | 9.4***                             | 4.3                          |
| Inadequate parental supervision                          | 7.1                                   | 9.0                                | 7.5                          |
| Physical abuse of child by parent/caregiver <sup>a</sup> | 1.0                                   | 4.1***                             | 1.7                          |
| Child treated as scapegoat                               | 0.7                                   | 1.6                                | 0.9                          |
| Harsh discipline   | 0.5                                   | 1.1*                               | 0.6                          |
| Over-protective or intrusive parenting                   | 0.4                                   | 1.0*                               | 0.6                          |
| Any of the above   | 8.9                                   | 14.4                               | 10.1                         |
| <b>Instability</b>                                       |                                       |                                    |                              |
| Residential instability (4+ moves in a five year period) | 4.9                                   | 19.3***                            | 8.1                          |
| Parent child separation                                  | 1.0                                   | 2.8**                              | 1.4                          |
| Forced separation of children from home                  | 0.9                                   | 2.5*                               | 1.2                          |
| New parent figure entered the household                  | 8.1                                   | 26.0***                            | 1.2                          |
| Non-routine change in school                             | 0.8                                   | 1.2                                | 0.9                          |
| Divorce  | 0.4                                   | 1.1                                | 0.6                          |
| Any of the above   | 9.2                                   | 26.3***                            | 12.1                         |

<sup>a</sup> The reference period for these risk indicators is birth through age 16. For all other indicators, the reference period is age 9, 11, or 13 through age 16.

Significantly more prevalent in this group: \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

Statistical tests are based on the robust Z-scores for the log-odds ratios estimated in GEE with a logistic link.

sampling approach. The generalized estimation equation (GEE) meets these requirements (Zeger and Liang, 1991). The GEE fits a generalized regression model for longitudinal data where the focus of estimation is the marginal (population) estimate.

The GEE was executed in SAS PROC GENMOD to test for differences in the prevalence of indicators of parent and family risks for children with and without parent/parent figure CJS involvement and in analyses testing assumptions about the basic relationship among measures of key constructs. Regression models were fitted using a logistic link function. The correlation matrix that describes within-subject variability over time was estimated by the GEE using a compound symmetric correlation structure. We also used robust variance estimates (i.e., sandwich-type estimates) together with sample weight adjustments (see Sample above) to control for design effects. Type III Wald statistics and confidence intervals were used for inference.

A series of multiple logistic regression models was estimated to examine the effect of parent CJS involvement (mediator) on the relationship between parent risk factors (independent variables) and children's exposure to family risks (dependent variables). Children were considered to be positive for a particular category of risk exposure if any indicator related to that category of risk was present.

Using a four-step approach to determine whether parental CJS mediates the relationship between parent risks and children's exposure to family risks (see Baron and Kenny, 1986), we first examined whether the three selected parent/caregiver risk factors (i.e., substance abuse, mental health, and low educational attainment) significantly predicted children living in households in which each of the four adverse family circumstances of interest were found (family structure, economic strain, inadequate care, and instability). Models also controlled for the effect of race/ethnicity. Next, we examined whether parent risk factors predicted level of CJS involvement (i.e., incarceration, other outcomes of arrest, never arrested). The third step tested whether parent CJS involvement was significantly associated with increased odds of children being exposed to family risks. Fourth, we estimated the relationship between parent CJS involvement and family risks controlling for the effect parent risk factors had on family conditions. Results are reported as exponentiated odds ratios.

Mediation can be said to occur when (1) an independent variable (in this case, parent risks) significantly affects a dependent variable (i.e., family risks) in the absence of the mediator (parent CJS involvement), (2) the independent variable significantly affects the mediator, (3) the mediator has a significant unique effect on a dependent variable, and the effect of the independent variable on the dependent variable is reduced with the addition of the mediator to the model (MacKinnon et al., 2002). Where

## PARENTAL CRIMINAL JUSTICE INVOLVEMENT 687

the logistic regression models described above indicated these conditions were met, Sobel tests were conducted to determine whether the reduction in the relationship between parent and family risks associated with the inclusion of parent CJS involvement was significantly different from zero (Sobel, 1982).

### RESULTS

#### PREVALENCE OF PARENT/CAREGIVER INVOLVEMENT WITH THE CRIMINAL JUSTICE SYSTEM

Between birth and age 16, nearly half (47.4%) of the youth from the primarily rural counties represented by GSMS data had at least one significant parent figure who had been arrested, charged, or sanctioned by the criminal justice system. Most often it was children's biological fathers who had contact with the criminal justice system (41.6% of all children), but about 1 in 8 (14.5%) had mothers and about 1 in 10 (10.4%) had other parent figures who had encounters with criminal justice authorities. This includes about 1 in 5 children (22.1%) who had multiple parents/parent figures with arrest histories. Multiple parent CJS involvement was particularly common among children whose mothers had been arrested. As described elsewhere (Phillips et al., 2006), only 1 in 4 of these children had only a mother with an arrest history.

African-American and American Indian youth were highly over-represented among children whose parents had contact with the criminal justice system. Almost three quarters of African-American (71.6%) and one half of American Indian children (58.1%) had a parent figure who had been involved with the CJS. These groups, respectively, made up only about 3.7% and 6.9% of the total population. In contrast, only about two out of five (44.4%) white children (who accounted for almost 90% of the population) had parents who had been arrested.

In most instances, the first arrest of a parent figure occurred prior to the baseline interview (i.e., before youth were ages 9, 11, or 13). A small percentage of youth (about 5%) experienced the first arrest of a parent figure in the years after baseline.

#### PREVALENCE OF PARENT AND FAMILY RISK FACTORS

Table 1 compares the prevalence of parent/caregiver risk factors and family risk factors among children whose parents or other caregivers did and did not have contact with the criminal justice system (i.e., arrest, charges, and any sanction). In each instance, risk exposure was greater for youth whose parents had been involved with criminal justice authorities. These differences did not rise to the level of statistical significance in the case of family size, the ability of families to meet children's basic needs,

parental supervision, treating the child as a scapegoat, non-routine changes in school, or divorce.

#### RELATIONSHIPS AMONG PARENT RISK FACTORS, FAMILY RISK FACTORS, AND PARENT CONTACT WITH THE CRIMINAL JUSTICE SYSTEM

##### LIKELIHOOD OF EXPOSURE TO FAMILY RISKS BASED ON PARENT/CAREGIVER RISK CHARACTERISTICS

In most instances, as expected, there was a significant relationship between the selected parent risk characteristics and children's exposure to one or more risks in each of the four categories of family risks of interest (Table 2). The exceptions were that mental health problems did not predict family structure and that low educational attainment predicted neither inadequate care nor family instability.

##### CONTACT WITH CJS BASED ON PARENT RISK CHARACTERISTICS

Also, as expected, each parent risk factor was significantly associated with level of parental involvement in the criminal justice system (Table 3). By far, the strongest predictor was parental substance abuse.

##### EXPOSURE TO FAMILY RISKS BASED ON PARENT CJS INVOLVEMENT

In the absence of other possible explanatory factors, children whose parents or other significant parent figures had been incarcerated or had other forms of contact with the CJS had a significantly greater likelihood of experiencing family economic strain and instability (Table 4). Contact with the CJS, however, was not significantly related to reports of inadequate care (i.e., harsh parenting, lack of supervision, and so forth) or with living in families with structural risks.

##### EFFECT OF CRIMINAL JUSTICE CONTACT ON THE RELATIONSHIP BETWEEN PARENT RISK CHARACTERISTICS AND FAMILY RISK EXPOSURE

A final set of models estimated the effect of parent contact with the criminal justice system on children's exposure to family risks while taking into account the effect of parent risk factors and race/ethnicity. These models indicate that, in addition to parent risks and race/ethnicity, incarceration was a significant predictor of economic strain and that both incarceration and other forms of CJS involvement were additional predictors of family instability. More specifically, compared with children whose parents had never been arrested, those whose parents/parent figures had been incarcerated had 80% greater odds of living in households that experienced economic strain independent of the effect of parent risks and race.

PARENTAL CRIMINAL JUSTICE INVOLVEMENT 689

TABLE 2. ODDS OF FAMILY RISKS BASED ON PARENT RISK CHARACTERISTICS

| Parent Risks                                | Family Risks                            |  |  |                                    |
|---|---|--|--|------------------------------------|
|   | Family Structure<br>Odds Ratio (95% CI) | Economic Strain<br>Odds Ratio (95% CI) | Inadequate Care<br>Odds Ratio (95% CI) | Instability<br>Odds Ratio (95% CI) |
| Substance abuse                             | 1.2 (1.0, 1.5)*                         | 2.0 (1.6, 2.4)***                      | 1.6 (1.2, 2.1)***                      | 3.5 (2.7, 4.6)***                  |
| Mental health problems                      | 0.9 (0.8, 1.1)                          | 1.3 (1.1, 1.7)*                        | 1.7 (1.3, 2.3)***                      | 2.2 (1.7, 2.9)***                  |
| Low education                               | 0.3 (0.2, 0.5)***                       | 2.4 (1.9, 3.1)***                      | 1.3 (0.9, 1.8)                         | 1.0 (0.8, 1.4)                     |
| <b>Race/Ethnicity (compared with white)</b> |   |  |  |                                    |
| American Indian                             | 2.3 (1.7, 3.1)***                       | 3.0 (2.4, 3.8)***                      | 1.1 (0.9, 1.5)                         | 0.8 (0.6, 1.0)                     |
| African American                            | 3.0 (1.6, 5.9)***                       | 2.3 (1.4, 3.6)**                       | 1.3 (0.8, 2.1)                         | 1.6 (0.8, 3.2)                     |

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

TABLE 3. ODDS OF CRIMINAL JUSTICE SYSTEM INVOLVEMENT GIVEN PARENT RISK FACTORS<sup>a</sup>

| Parent Risk                                 | Level of CJS Involvement<br>Odds Ratio (95% CI) |
|---|---|
| Substance abuse                             | 12.1 (0.9, 16.1)***                             |
| Mental health problems                      | 1.6 (1.2, 2.1)***                               |
| Low education                               | 2.1 (1.5, 2.8)***                               |
| <b>Race/Ethnicity (compared with white)</b> |   |
| American Indian                             | 1.8 (1.4, 2.2)***                               |
| African American                            | 2.4 (1.4, 4.1)**                                |

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

<sup>a</sup>Based on worst result of arrest. Results of arrest were ordered so that incarceration had a higher value than other arrest outcomes that had a higher value than no arrest.

They also had 130% greater odds of experiencing family instability. Similarly, compared with children whose parents/parent figures had never been arrested, those who had parents who experienced outcomes of arrest other than incarceration had 80% greater odds of experiencing family instability.

Parent CJS involvement, however, was an *additional* risk factor for economic strain and instability. Exposure to these family risks was explained not only by parent CJS involvement, but parental substance abuse and mental health problems also had an effect on exposure to these family risks that was approximately equal in magnitude to that of parent CJS involvement.

Moreover, although parental CJS involvement was not significantly associated with exposure to risks associated with family structure or inadequate care, parent risk factors were. Children whose parents had substance abuse problems had 30% greater odds of experiencing a risk related to family structure and 60% greater odds of experiencing inadequate care compared with children whose parents did not have these problems. Mental health problems were associated with 70% greater odds of inadequate care.

AMOUNT OF REDUCTION IN FAMILY RISKS ASSOCIATED WITH PARENT CJS INVOLVEMENT

Sobel tests were conducted to determine whether the change in the relationship between parent and family risks associated with the inclusion of parent CJS involvement was significantly different from zero (Sobel,

PARENTAL CRIMINAL JUSTICE INVOLVEMENT 691

TABLE 4. ODDS OF FAMILY RISK EXPOSURE BASED ON PARENT LEVEL OF CRIMINAL JUSTICE SYSTEM INVOLVEMENT

|  | Family Risks                               |   |   |                                       |
|--|--|---|---|---------------------------------------|
|  | Family Structure<br>Odds Ratio<br>(95% CI) | Economic Strain<br>Odds Ratio<br>(95% CI) | Inadequate Care<br>Odds Ratio<br>(95% CI) | Instability<br>Odds Ratio<br>(95% CI) |
| <b>Level of CJS Involvement (compared with no contact)</b> |  |   |   |                                       |
| Incarceration  | 1.1 (0.8, 1.6)                             | 2.8 (2.1, 3.8)***                         | 1.3 (0.8, 2.2)                            | 4.5 (3.1, 6.5)***                     |
| Other outcomes of arrest                                   | 0.9 (0.7, 1.2)                             | 1.7 (1.3, 2.2)***                         | 1.3 (0.9, 1.9)                            | 3.1 (2.3, 4.3)***                     |

\**p* < 0.05; \*\**p* < 0.01; \*\*\**p* < 0.001.

TABLE 5. EFFECT OF LEVEL OF CRIMINAL JUSTICE SYSTEM INVOLVEMENT ON THE RELATIONSHIP BETWEEN PARENT RISK CHARACTERISTICS AND CHILDREN'S EXPOSURE TO FAMILY RISKS

|   | Family Risks                            |  |  |
|---|---|--|--|
|   | Family Structure<br>Odds Ratio (95% CI) | Economic Strain<br>Odds Ratio (95% CI) | Inadequate Care<br>Odds Ratio (95% CI) |
| <b>CJS Involvement (compared with no involvement)</b> |   |  |  |
| Incarceration   | 1.0 (0.7, 1.5)                          | 1.8 (1.3, 2.5)***                      | 0.9 (0.5, 1.6)                         |
| Other outcomes of arrest                              | 0.9 (0.7, 1.1)                          | 1.1 (0.8, 1.5)                         | 0.9 (0.6, 1.4)                         |
| <b>Parent Risks</b>                                   |   |  |  |
| Substance abuse                                       | 1.3 (1.1, 1.6)**                        | 1.7 (1.4, 2.2)***                      | 1.6 (1.1, 2.3)**                       |
| Mental health problems                                | 0.9 (0.8, 1.1)                          | 1.4 (1.1, 1.7)***                      | 1.7 (1.3, 2.3)***                      |
| Low education   | 0.3 (0.2, 0.5)***                       | 2.5 (1.9, 3.2)***                      | 1.3 (0.9, 1.9)                         |
| <b>Race/Ethnicity (compared with white)</b>           |   |  |  |
| American Indian                                       | 1.3 (1.7, 3.0)***                       | 2.9 (2.3, 3.7)***                      | 1.2 (0.9, 1.6)                         |
| African American                                      | 3.1 (1.6, 5.9)***                       | 2.1 (1.4, 3.4)***                      | 1.4 (0.8, 2.2)                         |
| <i>Log-likelihood</i>                                 | -3446, <i>df</i> = 6222                 | -3200, <i>df</i> = 6221                | -1990, <i>df</i> = 6222                |
|   |   |  | Instability<br>Odds Ratio (95% CI)     |
|   |   |  | 2.3 (1.5, 3.5)***                      |
|   |   |  | 1.8 (1.2, 2.7)**                       |
|   |   |  | 2.5 (1.7, 3.5)***                      |
|   |   |  | 2.2 (1.6, 2.9)***                      |
|   |   |  | 1.1 (0.7, 1.4)                         |
|   |   |  | 0.7 (0.5, 1.0)*                        |
|   |   |  | 1.7 (0.8, 3.4)                         |
|   |   |  | -2031, <i>df</i> = 6220                |

\**p* < 0.05; \*\**p* < 0.01; \*\*\**p* < 0.001.



PARENTAL CRIMINAL JUSTICE INVOLVEMENT 693

1982). In the case of economic strain, the results of the Sobel tests indicated that the change in the parameter estimates for substance abuse and mental health problems that occurred when parent CJS involvement was added to the model was significant, but the change in the parameter estimate for low education was not. On the other hand, the parameter estimates for all three parent problems (i.e., substance abuse, mental health problems, and low educational attainment) in the family instability model were significantly decreased by the addition of parent CJS involvement.

TABLE 6. SOBEL TEST OF MEDIATING EFFECT OF PARENT CJS INVOLVEMENT ON FAMILY RISKS

|                        | Economic Strain | Instability |
|------------------------|-----------------|-------------|
| Substance abuse        | -3.5**          | -3.8***     |
| Mental health problems | -2.5*           | -2.6 **     |
| Low education          | ns              | -3.0 **     |

\**p* < 0.05; \*\**p* < 0.01; \*\*\**p* < 0.001.

CONCLUSIONS

First, these findings confirm previous research suggesting that children whose parents become involved in the criminal justice system are an “at-risk” group. Moreover, this article provides population-based estimates of the prevalence of various risk factors experienced by children whose parents have had contact with the criminal justice system. The most prevalent risks differentiating these children from others are parental substance abuse (74.4%) and parental mental health problems (42.4%) (Table 1).

Second, these analyses indicate that the criminal justice system involvement of parents is associated with a significant increase in the likelihood of children experiencing family risks independent of the potentially confounding effect of parent risks. After accounting for the effects of parental substance abuse, mental health problems, lack of education, and race, the incarceration of parents (which here also includes house arrest) carried an added risk for children experiencing economic adversity that other outcomes of CJS involvement did not. Furthermore, both incarceration and other outcomes of arrest were additional significant predictors of family instability (Table 5). These are both factors that research links with the increased likelihood of children developing serious emotional and behavioral problems (e.g., including substance abuse and delinquency), and, in turn, of becoming involved with criminal authorities. Consequently, research on youth outcomes that treat the arrest of a parent as simply a

proxy for parental criminal conduct may lead to a distorted understanding of the etiology of youth problems.

Third, the two aspects of children's family circumstances that were affected by parental involvement in the criminal justice system—economics and instability—are particularly noteworthy when considered in the light of theoretical arguments about how the arrest and incarceration of large numbers of people may perpetuate crime. At the risk of oversimplification, the basics of the argument are that mass incarceration contributes to ecological conditions associated with high crime rates, in particular, poverty (because of the decreased employability and lower earning potential of individuals with criminal records) and population mobility (due to individuals moving back and forth between communities and penal institutions) (Clear et al., 2003; Rose and Clear, 1998). These hypothesized community-level "side effects" mirror the family-level effects observed in these analyses—economics and instability. Thus, these analyses demonstrate plausible family-level mechanisms through which the criminal justice system may contribute to ecological correlates of offending.

Finally, although household economic circumstances and family instability were significantly affected by parents' CJS involvement, the care children received and family structure were not. It is true that, as a group, children who had a significant parent figure who was involved in the criminal justice system were more likely than other children to experience physical and sexual abuse or to have a parent or other caregiver who was a harsh disciplinarian or overprotective/intrusive. These problems, however, as well as living in single-caregiver households, large families, or foster care seem to be better explained by parental substance abuse and mental health problems than by involvement with the criminal justice system.

These findings have important implications for public policy beyond providing empirical evidence of an association between parent CJS involvement and family risks independent of parent risks. They have implications for correctional programming and the development of services for children of offenders.

The most pervasive risks among children with histories of parental arrest in this study were parental substance abuse and mental health problems. Ironically, however, there has been a de-emphasis on offender rehabilitation programs over the past two decades (Petersilia, 1999), which might address these parent risks. Accordingly, the criminal justice system may not only be increasing the likelihood of children being subjected to economic strain and family instability through "acts of commission" (i.e., through parental arrest and incarceration), but also through "acts of omission" (i.e., not providing adequate and effective interventions to address parental substance abuse and mental health problems that this study shows are also linked to children's exposure to family risks).

## PARENTAL CRIMINAL JUSTICE INVOLVEMENT 695

At the same time that there has been a shift away from a rehabilitation orientation in corrections, there has been an increase in programs that address the parenting role of offenders, e.g., parent education, visitation programs, and scouting. A National Institute of Corrections (2002) publication heralds these programs as a way to reduce intergenerational incarceration. In light of the findings reported in this article, it is difficult to imagine how one could expect these programs to achieve such a lofty goal if, in fact, the criminal justice system is simultaneously contributing to youth experiencing family risks that are linked to delinquency and, at the same time, not giving priority to addressing parent problems that can also contribute to children becoming involved with criminal authorities. The importance of correctional programs that address parent issues (e.g., visitation, scouting, parent education, etc.) for children seems to lie primarily in their potential to mitigate the more immediate negative emotional consequences of parental arrest and incarceration. The value of these programs should not be discounted. Nonetheless, it seems unrealistic to expect them to have a substantial impact on preventing intergenerational incarceration if other aspects of the criminal justice system are not aligned with that goal.

### LIMITATIONS

The family risks that were examined in this article were observed only during the period between when children first entered the GSMS study (ages 9, 11, or 13) and age 16. In most instances, parents' involvement in the criminal justice system began before this period. Although the *onset* of parent CJS involvement typically preceded the family risks in question, arrests that may have occurred during the prospective part of this study were not accounted for. We know that, in general, individual's criminal careers wane as they age and begin to have children (Blumstein, 1986), which would lead us to suspect that much of GSMS parents' active offending would have ended by the time their children reached ages 9, 11, or 13. Nonetheless, the temporal relationship between arrests and the observed family risks cannot be definitively established. Although the analyses reported in this article show a significant association between parental incarceration/other arrest outcomes and children's exposure to family risks independent of the potentially confounding effect of parent risks and race/ethnicity, this is not empirical evidence of a causal relationship.

It is also important to recognize that these analyses are a very broad stroke exploration of the potential effects of parent CJS involvement. They examined only one possible consequence—its effect on children's family situations. However, in addition to affecting children's exposure to family risks, the arrest and incarceration of a parent may also have a direct effect on children's psychological well-being (e.g., grief, anxiety, and so

forth) and there may be interactions among child, family, and community effects. Other pathways through which children might be affected by parent CJS and their ultimate link(s) to youth outcomes remain to be investigated.

Additionally, further research is needed to understand more precisely how specific individual risks within the broad domains of family risks described in this article are affected by parent CJS involvement. For example, in these analyses, children who lived in a single-caregiver home *or* were in foster care *or* lived in households with more than four siblings were all categorized as being exposed to family structural risks. Moreover, these analyses showed that living in a household in which the parent(s) had not finished high school reduced the odds of children falling in this category (net the effect of parent CJS involvement, substance abuse, mental illness, and race). In actuality, the role parent CJS involvement plays when it comes to mediating the relationship between low educational attainment of the parents/parent figures with whom children are residing and children's likelihood of living in single-caregiver homes versus foster homes, for example, could be different depending on whether the single-caregiver is the child's parent or grandparent or whether the foster parent is a relative or nonrelative.

The analyses reported in this article also do not account for possible differences in family risk exposure associated with parent gender. Maternal arrest and incarceration are believed to be more disruptive to children than the arrest and incarceration of fathers, because mothers are more often living with their children when they are arrested (Mumola, 2000) and because their children may be more likely to become involved with child welfare authorities (Beckerman, 1998) or to be placed in the care of relatives while their mothers are in jail or prison (Phillips et al., 2004). These analyses, however, did not control for parent gender because of the limited statistical power to detect the effect of maternal CJS involvement due to the relatively small number of mothers who were arrested in the populations represented by GSMS. The potential of isolating the effect of maternal CJS involvement from paternal CJS involvement is complicated further by the fact that most children whose mothers were involved in the criminal justice system also had fathers and/or other parent figures with CJS involvement.

Additionally, self-report data (as opposed to official records) were used to determine whether children's parents/parent figures had been arrested. Self-report arrest information can be subject to error associated with memory problems (particularly as the recall period increases) and can also be influenced by the seriousness and frequency of offending (Blumstein et al., 1986). Furthermore, it is possible that parent figures that were not in

## PARENTAL CRIMINAL JUSTICE INVOLVEMENT 697

the home may have been arrested unbeknownst to the respondents. Consequently, this study may underestimate the actual prevalence of parent/parent figure CJS involvement.

Finally, The Qualla Boundary, the home of the Eastern Band of the Cherokee Nation, is located in the geographic area targeted by GSMS. Depending on the offense location, offense, offender, and victim, some of the offenses leading to arrest may have fallen under the jurisdiction of tribal agencies. It is currently unclear (all else being equal) if or how the consequences of parental CJS involvement may differ between children whose parents fall under tribal versus nontribal jurisdiction.

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700

PHILLIPS ET AL.

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