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## Onset of Juvenile Court Involvement: Exploring Gender-Specific Associations with Maltreatment and Poverty

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### Abstract

Despite increased attention to gender differences in youthful offending, no known studies have examined the relative impact of poverty, maltreatment, and their combination on gender-specific patterns of offending. This research addresses the question of the differential impact of maltreatment and poverty on the onset of status and delinquent petitions for girls compared to boys. A sample of youth born in 1982–1986 in the Midwest was examined. The independent variables were poverty, maltreatment, and both. The risks of delinquent petition and status petition were analyzed using separate Cox proportional hazards models by gender. A second set of analyses were conducted on a subset of youth reported for maltreatment. There was an increase in the likelihood of juvenile court petition based on the combination of poverty and maltreatment risk factors compared to maltreatment only. This increase in risk held true only for the boys in the maltreatment subsample. Thus, the notion of these risk factors being additive is supported with males, but only for females when a non-maltreatment comparison group exists. The gender-specific nature of these relationships supports conceptual propositions that girls' pathways to the juvenile justice system are distinct from boys'. Implications for theory, research, and practice are discussed.

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As the field of juvenile justice research has progressed, researchers and theorists have increasingly promoted an ecological perspective, asserting that understanding youth crime and the needs of juvenile offenders requires assessment and intervention in multiple systems (Guerra, 1997; Borduin, Mann, Cone, et al., 1995; Williams, Stiffman, & O'Neal, 1998). While individual, family, and neighborhood levels of influence are now acknowledged, gaps remain in the research assessing the interactions among risk factors and how they may vary for youth subpopulations. These constraints on knowledge limit the degree to which we can affect change in youth crime.

This article attempts to address part of the gap in the present literature on youthful offending. As the following discussion will show, prior researchers and theorists make clear assertions that boys and girls have different pathways to juvenile justice system involvement, contending that maltreatment is a particularly important in understanding girls' crimes. Meanwhile, many believe that poverty, maltreatment, or both place youth at higher risk of law-breaking behavior. However, no known studies have examined the relative impact of these risk factors on gender-specific patterns of offending.

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## Poverty

Several sociological thinkers (e.g., Bursik & Grasmick, 1995; Lundman, 1993; Shaw & McKay, 1969) have promoted theories of juvenile justice based on the idea of social disorganization. The essential common feature among them is an emphasis on geographic “delinquency areas,” urban neighborhoods in which arrests of juveniles are far more common than in other areas. Poverty and other structural factors such as unemployment, racism and discrimination, lack of cohesion, and the flight of the middle class are presumed to be causal factors of youth crime, particularly in urban areas (Nellis, 2005; Sampson & Wilson, 1995). In these areas, youth may also be more likely to witness street crime, legitimizing it to some extent in their minds (Sampson & Wilson).

As Siegel and Senna (1981) suggest, some youth are materially disadvantaged and have few mainstream prospects. Being blocked from legitimate opportunities for success, they will create economic and social possibilities where they can, sometimes through offending behavior. In terms of various strain and blocked opportunity theories, offending can in some cases be seen as an adaptive survival mechanism. The authors note, “[M]ost official sources of delinquent behavior indicate that lower-class, inner-city youth commit a disproportionate amount of crime” (p. 97).

A final comment about the connection between residence in poor neighborhoods and juvenile justice system involvement relates to police behavior. It is possible that police use monitoring and arrest differently by neighborhood, choosing to target low-income neighborhoods and individuals. As residence in low-income neighborhoods is strongly connected to membership in racial minority groups (Bruce, 2004; National Center for Children in Poverty, 2004; Snipp, 2005), the apparent differential offending patterns between poor and non-poor youth may be artifacts of police policies that are both classist and racist.

## Maltreatment

Child maltreatment has long been assumed to be a precursor to youthful offending. Because of this connection, child welfare systems and juvenile justice systems are inherently linked, as evidenced by their common court setting; delinquency outcomes may be indicative of the success or failure of child welfare system intervention (Barth & Jonson-Reid, 2000). Specifically, researchers have reported results suggesting that having experienced maltreatment is associated with committing offenses or exhibiting antisocial behavior (e.g., Archwamety & Katsiyannis, 1998; Bloom, Owen, Rosenbaum, & Deschenes, 2003; Daniel, 1999; Herrera & McCloskey, 2001; Salzinger, Feldman, Ng-Mak, Mojica, Stockhammer, & Rosario, 2002). In the case of violent delinquency, youth may be enacting a so-called “cycle of violence” in which their risk of violent offending increases as a result of maltreatment (Hawkins, Herrenkohl, Farrington, et al., 2000; Heck & Walsh, 2000; Stouthamer-Loeber, Loeber, Homish, & Wei, 2001; Widom & Maxfield, 2001). Explanations for this behavior are grounded in social learning theory (Bandura, 1977), which states that children learn to imitate the behaviors that are modeled for them, as well as social control theory (Hirschi, 1969), which asserts that the family is a major source of youth learning to restrain their tendencies toward illegal acts. When the family is not functioning adequately, youth may be exposed to models of antisocial behavior and/or lack the inhibition stemming from family controls.

## Cumulative Risk

Given that poverty and child maltreatment both have empirical support as risk factors for later juvenile court involvement, it may be that a combination of the two experiences compounds the risk for juvenile court petition. This assertion is in keeping with the currently popular framework analyzing juvenile court system involvement as multiply determined, according to

a combination of a number of risk factors (Fraser, Kirby, & Smokowski, 2004). However, no known research has yet tested this proposition from a prospective standpoint.

## Gender Differences

The feminist perspective has contributed a new understanding of girls' offending behavior, noting that males and females have different pathways to offending, display different patterns of offending, and may well respond differently to intervention. Feminist thinkers have emphasized that a gender-blind research agenda does a disservice to girls in the juvenile justice system because it ignores female experience in the face of boys' more frequent and somewhat more visible offending behavior (Chesney-Lind & Shelden, 2004; Hoyt & Scherer, 1998).

Previous research on girls in juvenile justice has been largely descriptive in nature. Consistent findings are that child maltreatment (Herrera & McCloskey, 2001; Holsinger, 2000), particularly sexual abuse (McCormack, Janus, & Burgess, 1986), is often a precursor to female offending, that mental health issues are more prominent for girls in the juvenile justice system than for boys in the system (Calhoun, 2001; McCabe, Lansing, Garland, & Hough, 2002; Timmons-Mitchell, Brown, Schulz, Webster, Underwood, & Semple, 1997), and that family functioning aside from maltreatment is a key issue for these girls (Galbavy, 2003; Rosenbaum, 1989). However, no research has examined how the cumulative risk of poverty and maltreatment may vary for girls as compared to boys.

This study assesses how maltreatment and poverty may contribute jointly to youth offending behavior and how this may vary by gender and other risk factors. The first research question addressed in the present study is as follows:

### Research Question 1

Are maltreatment and poverty together associated with a greater risk of status or delinquency petition than either condition alone? It is hypothesized that these risk factors are cumulative, that is, that each contributes independently to juvenile justice system involvement. Thus, risk of both status and delinquent petition is predicted to be significantly higher among youth who experienced both poverty and maltreatment than among youth with a record of either condition alone, controlling for other factors.

The second research question considered is as follows:

### Research Question 2

Are the relative influences of maltreatment and poverty on later status and delinquent petitions gender-specific? Feminist theory would suggest that the strength or direction of the associations may be different for girls than for boys; in particular, a stronger effect of maltreatment is possible, as is a differential effect by type of maltreatment. Because empirical research on different petition outcomes by gender is still in its infancy, this research question is considered exploratory in nature, and specific hypotheses are not advanced.

## Methods

A subgroup of youth born in 1982–1986 in a Midwestern metropolitan region was selected from a longitudinal study of service paths of low income children compared to children reported for abuse and neglect. The total sample size for this analysis was 3,453 children, 1,701 girls and 1,752 boys. The youth in the sample were either reported for maltreatment in the years 1993–1994, were in families receiving Aid to Families with Dependent Children (AFDC) or Temporary Assistance to Needy Families (TANF), or both. The analyses for the present paper examine whether or not a first juvenile court petition occurred through October of 2001.

## Data and variables

Five databases are used in this study. The data contain information on AFDC/TANF receipt, child abuse and neglect reports, child welfare services, special education, and juvenile court petitions. Census tract information was linked to the data through geocoding the first known address of each case. Child abuse and neglect reports (CAN reports), child welfare service information, and income maintenance records use common identifiers. Information from the juvenile court and special education data were matched using Statistical Analysis System (SAS) matching followed by hand-checking results. After linkage, all identifying information was removed and variables were categorized at a sufficiently gross level to prevent accidental identification. The study received approval from the university's human subjects committee.

**Dependent variables**—The two dependent variables in this study are status offense petition and delinquent offense petition. Status petitions reflect an alleged offense that is a violation for youth but not adults, such as running away or truancy. Delinquency petitions are filed when a youth is believed to have violated the criminal code by committing a person, property, drug, or public order offense. In the relatively uncommon ( $n=48$ , 1.4%) situation where a child's first juvenile court petition was simultaneously a delinquent offense and a status offense, the outcome was coded as a delinquent petition. It is important to note that this research addresses juvenile justice system *petitions*, which are analogous to "charges" in adult court. Measuring youth offenses in this manner constrains the analysis to youth who are identified for attention by the juvenile justice system; offenses that are either unreported or discharged prior to a court petition are not captured in these data.

**Gender**—Gender was not considered either an independent variable or a control variable for the purposes of this research, but was used to divide the sample into two groups. In recognition of the possibility that the male and female youth in this sample could generate entirely different results by gender, separate analyses were performed for female and male subgroups for each of the two dependent variables.

**Independent variables**—The independent variables in the analysis are poverty, maltreatment, and both conditions. Each is a dummy variable, measured according to the presence or absence of social service system data on an event. The poverty condition is indicated by receipt of Aid to Families with Dependent Children (AFDC) or Temporary Assistance to Needy Families (TANF). The maltreatment group contains youth who were reported as alleged victims of maltreatment (physical abuse, sexual abuse, neglect, or mixed-type abuse) during the time period 1993–1994. The final group consists of youth who both received income maintenance support and were reported for maltreatment.

**Control variables**—Race has been found to be associated with both poverty (e.g., United States Bureau of the Census, 2003) and juvenile justice system involvement (e.g., Williams, Hovmand, & Bright, 2007). As nearly all youth in this sample ( $n=3,407$ , 98.7%) were identified as white or African American, separate analyses of other racial or ethnic groups were not possible, and the race variable was dummy-coded to denote white (0) and non-white (1). Interactions between race and all other independent and control variables were included if they contributed significantly to the overall explanatory power of the model, as measured by the  $-2$  log likelihood  $\chi^2$ .

Two census-tract level variables were considered as possible control variables. Census-tract income was included as a proxy for neighborhood poverty, and was retained only in the analyses where it added significantly to the model. Census-tract person crime rates (capturing such crimes as assault, robbery, rape, and homicide) were initially analyzed as a measure of neighborhood crime, but were not retained as they did not significantly contribute to any

models. The analyses including census income data use a sandwich estimator, appropriate for modeling the dependency inherent in clustered (in this case, census-tract level) data (Stokes, Davis, & Koch, 2000).

**Special education:** Special education eligibility data were collected from area school districts. In this sample, only special education eligibility that pre-dates a juvenile court petition is included as a control variable. Eligibility for special education services based on learning disability, emotional disturbance, and other disability were each dummy-coded (eligible=1, non-eligible=0 in each category).

**Maltreatment-related control variables:** In the subsample that was reported for maltreatment, either with or without AFDC/TANF, additional control variables were considered. As maltreatment reports (i.e., phone calls alleging child abuse or neglect) were used as a proxy for child maltreatment, the independent variables include both substantiated and unsubstantiated child maltreatment reports. This decision is supported by findings that substantiation status does not necessarily reflect differences in outcomes (Drake, Jonson-Reid, Way, & Chung, 2003; Hussey, Marshall, English, et al., 2005; Way, Chung, Jonson-Reid, & Drake, 2001). Because some literature continues to use substantiation as an indicator of severity, and because it does provide an indication of whether a family could be mandated to accept services, it is included as a control variable.

Maltreatment type has been examined in previous research on juvenile justice system involvement, but with mixed results. Sexual maltreatment has been associated with status offense and physical maltreatment with later violent behavior (Famularo, Kinscherff, Fenton, & Bolduc, 1990); on the other hand, some studies have reported neglect to be a stronger predictor of later delinquency than other forms of maltreatment (Kingree, Phan, & Thompson, 2003; Zingraff, Leiter, Myers, & Johnsen, 1993). In our data, initial maltreatment reports were limited to those for educational neglect, other types of neglect, physical abuse, sexual abuse, or mixed types. Second and subsequent reports included other maltreatment types, such as emotional abuse.

Maltreatment that ends before age 12 has been found to be non-significant in predicting later delinquent outcomes, while maltreatment in adolescence or maltreatment that continues from childhood to adolescence is associated with negative outcomes, including delinquency (Thornberry, Ireland, & Smith, 2001). Some of the youth studied were reported for maltreatment more than once in the period 1993–1994. Given that subsequent reports may indicate a persistent maltreatment scenario, multiple reports were dummy-coded (0=one report; 1=two or more reports). A subsequent report is considered a new incident if it occurs 14 or more days after the prior report.

Foster care placement was deemed important for two distinctly different reasons: it may be a proxy for severity of maltreatment, suggesting a higher likelihood of offending behavior later in childhood (Runyan & Gould, 1985), or, as a child welfare service, it could be therapeutic, preventing subsequent offending (Jonson-Reid & Barth, 2000). Similarly, receipt of in-home services following a maltreatment report was considered an important control variable, in that provision of services has the potential to mitigate the maltreatment-offending relationship (Jonson-Reid & Barth; Jonson-Reid, 2004).

## Analyses

The analyses for this article were conducted using SAS 9.1 for Windows. Separate Cox regression models, using the PHREG procedure (Allison, 1995), were constructed for female and male youth on each outcome of interest. Two types of models were analyzed, testing the cumulative risk of poverty, maltreatment, and their combination in the full sample, and how

characteristics of the maltreatment report and subsequent services varied for maltreated and poor compared to maltreated-only youth. In the second set of models, those youth reported for maltreatment were analyzed as a subsample, separated by gender, on both outcomes. The models were constructed to gauge the risk of status petition versus no petition, and delinquency petition versus no petition; as such, youth whose first petition was for delinquency were excluded from the status petition models, and vice versa.

Bivariate survival analyses, including plots of  $-\log$  (estimated survivor function) against the log (failure time), were used to assess possible violations of the proportionality assumption for all main effects and interaction terms. An interaction term between a non-proportional variable and time was created where necessary to adjust for violation of this assumption (Allison, 1995). The models comparing the poverty-only with the maltreated groups used a risk period from birth to outcome or end of study. For the maltreatment subsample, time at risk was measured from the date of the initial maltreatment report in 1993–1994 to the date of first petition or the study end date. Hazard ratios were interpreted as a measure of the risk of the outcome. Like odds ratios, a value greater than one indicates a greater likelihood of the outcome, while a value less than one indicates a decreased likelihood.

## Results

Table 1 displays the demographic characteristics in the overall sample and the maltreatment subsample. As is shown in the table, 1,128 (32.7%) youth in the total sample had delinquency or status petitions, and 841 (36.7%) youth in the maltreatment subsample had juvenile court petitions.

### Research question 1

Are maltreatment and poverty together associated with a greater risk of status or delinquency petition than either condition alone?

Controlling for race and special education eligibility, both male and female youth living in families receiving AFDC/TANF who also had at least one child maltreatment report prior to age 12 were at higher risk of status petition than youth with only a maltreatment report; this was also true of males, but not females, in the case of delinquency petition (hazard ratios = 1.39–2.29). A further gender difference appeared when comparing the maltreatment only and AFDC/TANF receipt only groups. In the male delinquent petition model, AFDC/TANF receipt is associated with a decreased risk of petition compared to child maltreatment report only (hazard ratio = 0.73). Controlling for other factors, non-white youth were at significantly higher risk delinquent petition for both female and male youth; this pattern also held for male status petition (hazard ratios = 1.38–1.92) but was non-significant for female status offense petition. Learning disabilities appear to place girls at higher risk for status petition, while emotional disturbance is associated with increased risk of female delinquent petition; in boys, emotional disturbance is a significant risk factor for both types of petition, and learning disability is a risk factor for status petition.

In the male status offense model, census-tract income was significant. The hazard ratio of 0.98 indicates that each \$1,000 increase in census-tract income is associated with a 2% decrease in the risk of status petition, controlling for the other variables in the model. In the other models, neighborhood income level was not significant and was excluded. An interaction term between race and sample group indicated that among males, non-whites in the AFDC/TANF only group had lower rates of status offense petitions than all other males. See table 2 and table 3.



## Research question 2

Among youth with maltreatment reports, are the relative influences of maltreatment and poverty on later status and delinquent petitions gender-specific?

In the models of female delinquency petition with the maltreatment subsample, there is no statistically significant difference between those with both AFDC/TANF receipt and a maltreatment report and those with maltreatment reports only. In the male models and the female status offense model, the cumulative risk of poverty and maltreatment remains significantly associated with an increased risk of petition (hazard ratios = 1.50–1.72). In other words, the gender difference apparent in risk of delinquency petition does not appear with respect to status petition. See table 4 and table 5.

**Race and census tract income**—Non-white male youth have a higher risk of status and delinquent petition (hazard ratios = 1.91 and 1.50, respectively). With girls, however, race becomes non-significant in the maltreatment subsample models of juvenile court petition. An interaction between race and time added to the overall explanatory power of the female status model, although the interaction itself was non-significant. Census-tract income is statistically significant for female status and delinquent offense; higher income is associated with lower risk in both models. Census-tract income contributed to the predictive utility of the male delinquency model and was therefore retained, despite being non-significant.

**Special education**—Among females, the relationship between eligibility for emotional disturbance and delinquency and learning disability and status offending remained the same in the maltreatment subgroup models. Among males, eligibility for emotional disturbance was a significant risk factor for later status (hazard ratio = 3.04) and delinquency (hazard ratio = 2.17) petitions, controlling for other variables.

**Maltreatment-related control variables**—As anticipated, the substantiation status of a maltreatment report had no relationship to increased or decreased likelihood of a juvenile court petition. It does interact with number of reports to predict female status offense (hazard ratio = 2.60; this represents an increased risk of status petition for youth with unsubstantiated and a lower number of maltreatment reports) and with in-home child welfare services in the male delinquent petition model. Males with unsubstantiated maltreatment reports and no in-home services were less likely than other males to be petitioned for delinquency (hazard ratio = 0.49). Having multiple maltreatment reports is at first associated with a decreased risk of status petitions for both boys and girls and delinquency petition for girls (hazard ratios = 0.32–0.45); this risk increases at a rate of 2% per month, however, in these three models. Among females, foster care placement is initially associated with an increased risk of a petition for a status offense (hazard ratio = 2.79), but the significant interaction with time indicates that the risk of status offense for girls with a history of foster care placement decreases over time (hazard ratio = 0.35). Receipt of in-home child welfare services is statistically significant in the models of female status and delinquent petitions. Girls who receive these services are at higher risk of petition (hazard ratios = 1.69 and 1.45, respectively). In-home services interact significantly with time in the male status petition model; males with a history of in-home child welfare services become more likely to face a status offense petition over time (hazard ratio = 1.01). In the model of female status petition, interactions between census-tract income and foster care services, as well as census-tract income and in-home services, contributed significantly to the predictive ability of the model but were themselves non-significant.

Boys with reports of educational neglect show an increase in risk of status and delinquent petition compared to boys with reports of other types of neglect (hazard ratios = 1.90 and 1.57). Educational neglect interacts with time to contribute to the utility of the female status offense

model but was non-significant. No other types of maltreatment were statistically significantly related to risk of petition. Maltreatment age is significantly associated with status petition and delinquency petition in girls and boys (hazard ratios = 1.68–3.12). A significant interaction with time in these models indicates that this heightened risk decreases over time.

## Discussion

This study represents a first attempt to examine, from a prospective standpoint, the differences among maltreatment, poverty, and the combination of the two on gender-specific juvenile justice system outcomes.

The idea of “cumulative risk,” or an increase in the likelihood of juvenile court petition based on the combination of poverty and maltreatment risk factors, seemed very salient in models of male and female status and male delinquent petition. With female delinquent petition, however, risk did not increase for the maltreatment/poverty group compared to the maltreatment-only group. Thus, the notion of these risk factors being additive is supported in males, and in female status offense. With females, in the presence of a maltreatment report the poverty condition did not significantly increase the risk of delinquency petition. The gender-specific nature of these relationships provides some support for propositions that girls’ pathways to the juvenile justice system are distinct from boys’ (Chesney-Lind & Shelden, 2004). Gender distinctions are less apparent with respect to status offense petition, however. With regard to delinquency, it may be that prevention and intervention efforts are most appropriate for boys with histories of both poverty and maltreatment, while girls with histories of maltreatment, with or without poverty, may benefit from targeted prevention and intervention. A caveat to this assertion is the finding that girls from poorer neighborhoods are more likely than other girls to be petitioned for delinquency.

The special education control variables were statistically significant in several analyses. Learning disabilities and emotional disturbance in particular appear to be potential warning signs for later juvenile justice system involvement. This is consistent with some existing literature (e.g., Davis, Bean, Schumacher, & Stringer, 1991; Jonson-Reid, Williams, & Webster, 2001; Larson, 1988), although much of the previous research has been retrospective and focused on incarcerated youth. The present study strengthens the position that youth eligible for special education due to learning disability or emotional disturbance may benefit from targeted juvenile justice prevention activities. These relationships are worthy of further exploration.

Maltreatment-related control variables provided some useful information in creating a picture of risk factors for later juvenile court involvement. In the female models, child welfare services were associated with an increased risk for later juvenile justice petition (although this risk decreased over time for girls with a history of foster care, with respect to status petition). It is possible that this increased risk indicates that services were appropriately targeted to high-risk girls, who tend to exhibit more problematic behavior. Alternatively, it is also possible that child welfare services were not able to mitigate girls’ risk of juvenile court involvement following maltreatment. Runyan and Gould (1985) noted that foster care placement may be a reflection of the severity of maltreatment. If this is the case, the girls in this sample may be at higher risk due to higher levels of trauma than girls who were never placed in foster care. However, McMahon and Clay-Warner (2002) postulated that foster care placement may have deleterious effects in girls, and this finding does not entirely refute that assertion. Future research should investigate the relationship between foster care placements, maltreatment severity, and girls’ behavioral outcomes. It is an open question why the relationships between services and later petition were non-significant with boys in the present study.



Consistent with findings from the Rochester Youth Study (Thornberry, Ireland, & Smith, 2001), an increase in age at maltreatment was associated with increased risk of juvenile court petition. Older age at maltreatment may be indicative of increased need for service and monitoring. The statistically significant time interactions in these models, however, provide a more complete picture, suggesting that this risk should be addressed as soon as possible when an older youth is petitioned for an offense.

In these analyses it does not appear that youth with unsubstantiated reports were any less likely to face a juvenile court petition than youth with substantiated reports, supporting the hypothesis that substantiation of a maltreatment report is not reflective of the effects of maltreatment on the child (Drake, Jonson-Reid, Way, & Chung, 2003; Hussey, Marshall, English, et al., 2005; Way, Chung, Jonson-Reid, & Drake, 2001). Risk associated with maltreatment is unrelated to substantiation status in these data.

The relationship between maltreatment type and petitions is complex. In girls, all maltreatment types were equally likely to result in status or delinquency petition. This calls into question the seminal role sexual maltreatment is assumed to have with respect to female offending, although previous research has also found that childhood sexual abuse may be more likely to result in increased criminality among adult women rather than increased risk of juvenile petition (Siegel & Williams, 2003). This phenomenon is not yet well understood from a developmental standpoint.

In boys, on the other hand, maltreatment type does have some predictive utility with respect to later petition. Educational neglect is significantly associated with status and delinquent petitions, which may reflect a connection between school problems and later truancy (the most common status petition among boys in this sample) as well as delinquency. More study is needed to explore possible reasons for the connection between educational neglect and delinquent behavior.

Finally, the finding that youth of color are more likely than white youth to be petitioned for status or delinquent offenses is saddening but not surprising. Previous research has consistently shown minority youth to have more frequent justice system contact than their white counterparts, net a number of control variables (e.g., Engen, Steen, & Bridges, 2002; Leiber, 2002; Poe-Yamagata & Jones, 2000). This study does not challenge the notion of overrepresentation of youth of color in the juvenile justice system. There is indication, however, that this effect is stronger for males. No relationship between race and status offense petition was found among females, and the association between delinquent petition and race disappeared in the maltreatment model for females, but not for males. Prior studies have also found differences in the association of race with delinquency and risk behaviors between males and females (Auslander, McMillen, Elze, Thompson, Jonson-Reid, & Stiffman, 2002; Jonson-Reid & Barth, 2000).

## Limitations

The data used in this study is administrative and therefore limited in some ways. While we are able to explore risk associated with certain types of social service and educational system variables, we have no information on biological or intrapsychic processes. It is impossible to use these data to investigate all maltreatment, poverty, educational need, and youth crime; we are limited to that which is known to social service systems. Additionally, these social problems are not amenable to experimental manipulation in the sense that youth cannot be randomly assigned to live in poverty or experience maltreatment. Therefore, causal inferences cannot be drawn from our results, and we are limited to the study of association. Another limitation is that the sample is drawn from one region, meaning that generalizability of findings is unknown. It is hoped that this research will be replicated in other regions and that a better understanding

of the interrelationships among poverty, maltreatment, and juvenile court outcomes will become better understood across geographical regions and ethnic groups. A final limitation reflects the income distribution in the data. Over 90% of the sample had family incomes below \$50,000. It could be that variables such as census-level income (statistically significant in only two of six models) would be significantly related to juvenile court petitions if family income were more varied.

## Conclusion

Despite some limitations in the data, this research begins to address a gap in the literature about the relative importance and additive nature of poverty and maltreatment among boys and girls on juvenile court petitions. Although the relationships among independent, control, and dependent variables are complex, some patterns emerged. First, the idea of “cumulative risk” appears especially relevant to boys. In targeting limited funds for prevention and intervention services related to juvenile justice, it may be wise to gear these services to boys who have experienced both poverty and maltreatment. With girls, on the other hand, either poverty or maltreatment alone may represent a substantial risk factor for juvenile court involvement, indicating that services could be targeted toward girls who have experienced either condition, regardless of the presence or absence of the other.

Special education variables, net other factors, also predicted juvenile court petitions. Particular attention and further research should be paid to the unique risks associated with learning disabilities and emotional disturbance with regard to juvenile court involvement.

Finally, the present research provides support for theories about gender-specific pathways to juvenile court involvement. While sexual abuse was not the key factor some would have suspected, maltreatment alone, as well as poverty alone, clearly present substantial risk for girls in a different way than for boys. As suggested earlier, this difference may warrant gender-specific approaches to delinquency and status offense prevention and intervention.

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**TABLE 1**  
Frequencies and percentages of sample characteristics

	Full sample (N=3,453)		Maltreatment (n=2,291)	
Gender				
Female	1701	49.3%	1112	48.5%
Male	1752	50.7%	1179	51.5%
Race				
African American	2298	66.5%	1325	57.8%
Caucasian	1109	32.1%	934	40.8%
Other	46	1.4%	32	1.4%
Poverty/Maltreatment status				
AFDC/TANF	1162	33.6%	--	--
Maltreatment (CAN)	920	26.6%	920	40.2%
AFDC/TANF + CAN	1371	39.7%	1371	59.8%
First juvenile court petition				
Delinquent	686	19.9%	490	21.4%
Status	442	12.8%	351	15.3%
None	2325	67.3%	1450	63.3%
Special education eligibility				
Learning disability	467	13.5%	347	15.1%
Emotional disturbance	127	3.7%	116	5.1%
Other disability	189	5.5%	145	6.3%
None of these	2670	77.3%	1683	73.5%
Census-tract income				
<\$25,000/year	1692	49.4%	985	43.3%
\$25,000–49,999/year	1492	43.6%	1080	47.4%
\$50,000+/year	240	7.0%	211	9.3%
Maltreatment type (First report)				
Educational neglect	--	--	355	15.5%
Other neglect	--	--	985	43.0%
Physical abuse	--	--	688	30.0%
Sexual abuse	--	--	190	8.3%
Mixed type	--	--	73	3.2%
Age at first maltreatment report				
6	--	--	151	6.6%
7	--	--	407	17.8%
8	--	--	501	21.9%
9	--	--	474	20.7%
10	--	--	441	19.2%
11	--	--	317	13.8%
Substantiation status				
Yes	--	--	1781	77.7%
No	--	--	510	22.3%
In-home services following report				



	Full sample (N=3,453)		Maltreatment (n=2,291)	
Yes	--	--	626	27.3%
No	--	--	1680	72.7%
Child placed in foster care after first report				
Yes	--	--	161	7.0%
No	--	--	2130	93.0%
Number of maltreatment reports				
One	--	--	1297	56.6%
≥Two	--	--	994	43.4%

**TABLE 2**  
 Cox regression models of female and male status petitions: AFDC/TANF and AFDC/TANF + Maltreatment report (CAN) compared to CAN only<sup>‡</sup>

Sample group	Females (n=1,439) <sup>†</sup> $\chi^2$	Hazard ratio	95%CI	Males (n=1,302) <sup>†</sup> $\chi^2$	Hazard ratio	95%CI
(CAN)						
AFDC	1.47	0.75	0.46–1.20	0.23	1.20	0.57–2.54
AFDC + CAN	9.66**	1.83	1.25–2.68	6.18**	2.29	1.11–2.36
Race						
(White)						
Non-white	2.19	0.79	0.58–1.08	8.20**	1.92	1.23–3.01
Special education – Emotional disturbance						
(Not eligible)						
Eligible	0.44	1.10	0.46–2.64	17.81***	2.77	1.73–4.45
Special Education – Learning disability						
(Not eligible)						
Eligible	5.23*	1.50	1.06–2.12	4.69*	1.45	1.04–2.02
Special Education – Other disability						
(Not eligible)						
Eligible	0.002	0.99	0.54–1.81	0.16	0.87	0.44–1.71
Census-tract income						
Per \$1,000	--	--	--	12.92**	0.98	0.96–0.99
Interaction terms						
Non-white						
X AFDC	--	--	--	5.77*	0.36	0.15–0.83

<sup>‡</sup>Reference groups for categorical variables are indicated in parentheses

\* p<.05

\*\* p<.01

\*\*\*  
p<.001

<sup>†</sup>Wald Sandwich  $\chi^2 = 36.743, df = 6, p < .0001$

<sup>‡</sup>Wald Sandwich  $\chi^2 = 141.597, df = 8, p < .0001$

**TABLE 3**  
Cox regression models of female and male delinquency petitions: AFDC/TANF and AFDC/TANF + Maltreatment report (CAN) compared to CAN only<sup>‡</sup>

Sample group	Females (n=1,512) <sup>†</sup> $\chi^2$	Hazard ratio	95%CI	Males (n=1,607) <sup>‡</sup> $\chi^2$	Hazard ratio	95%CI
(CAN)						
AFDC	1.56	0.77	0.52–1.16	5.14*	0.73	0.55–0.96
AFDC + CAN	2.53	1.36	0.93–1.99	7.53**	1.39	1.10–1.75
Race						
(White)						
Non-white	7.77**	1.72	1.17–2.52	7.16**	1.38	1.09–1.74
Special education – Emotional disturbance						
(Not eligible)						
Eligible	7.69**	2.51	1.31–4.82	12.34**	1.87	1.32–2.66
Special Education – Learning disability						
(Not eligible)						
Yes	2.53	1.31	0.94–1.85	2.94	1.22	0.97–1.54
Special Education – Other disability						
(Not eligible)						
Eligible	0.05	0.93	0.49–1.76	0.29	1.11	0.754–1.64

<sup>‡</sup>Reference groups for categorical variables are indicated in parentheses

\* p<.05

\*\* p<.01

\*\*\* p<.001

<sup>†</sup>Wald Sandwich  $\chi^2 = 42.192, df = 6, p < .0001$

<sup>‡</sup>Wald Sandwich  $\chi^2 = 71.896, df = 6, p < .0001$

**TABLE 4**  
Cox regression models of female and male status petitions: AFDC/TANF + Maltreatment report (CAN) compared to CAN only

Sample group	Females (n=928) <sup>+</sup> $\chi^2$	Hazard ratio	95%CI	Males (n=859) <sup>†</sup> $\chi^2$	Hazard ratio	95%CI
(CAN)						
AFDC						
+ CAN	7.29**	1.72	1.16-2.54	6.74**	1.69	1.14-2.50
Race						
(White)						
Non-white	0.26	0.90	0.61-1.33	9.51**	1.91	1.27-2.89
Special education – Emotional disturbance						
(Not eligible)						
Eligible	Not enough cases			22.82***	3.04	1.93-4.80
Special Education – Learning disability						
(Not eligible)						
Eligible	7.33*	1.76	1.17-2.64	1.75	1.29	0.89-1.87
Special Education – Other disability						
(Not eligible)						
Eligible	Not enough cases			3.35	0.34	0.11-1.08
Foster care						
(Not eligible)						
Eligible	6.62*	2.79	1.28-6.08	2.11	1.38	0.89-2.13
In-home services						
(No)						
Yes	5.93*	1.69	1.11-2.58	1.77	0.62	0.31-2.20
Number of reports						
(One)						
≥Two	8.01**	0.34	0.16-0.72	6.67**	0.45	0.24-0.82
Substantiation of first report						
(No)						
Yes	3.33	0.55	0.29-1.04	1.17	1.24	0.84-1.83

	Females (n=928) <sup>†</sup>		Males (n=859) <sup>‡</sup>			
	$\chi^2$	Hazard ratio	95%CI	$\chi^2$	Hazard ratio	95%CI
Maltreatment type						
[Neglect (not educational), Physical, Mixed]						
Ed. neglect	0.44	1.17	0.74-1.85	8.12 <sup>**</sup>	1.90	1.22-2.97
Sexual	1.17	0.74	0.42-1.28	0.11	0.83	0.27-2.57
Age at First Report (6-11 years)	49.3 <sup>****</sup>	1.68	1.45-1.94	66.44 <sup>****</sup>	1.79	1.56-2.06
Census Tract Income						
(>\$26,000)	3.55	1.46	0.98-2.17	6.37 <sup>*</sup>	1.57	1.11-2.23
<\$26,000						
Interaction terms						
Income <sup>*</sup>						
In-home	2.07	0.62	0.33-1.19	--	--	--
Foster	1.88	0.45	0.14-1.41	--	--	--
Substantiation # Reports						
	5.85 <sup>*</sup>	2.60	1.20-5.65	--	--	--
Time interactions						
Foster care <sup>*</sup> (25mo<time<80mo)	3.93 <sup>*</sup>	0.35	0.12-0.98	--	--	--
Race <sup>*</sup> (time>60mo)	3.60	0.55	0.29-1.02	--	--	--
Maltreatment age <sup>*</sup> (time>60mo)	31.60 <sup>****</sup>	0.54	0.44-0.67	33.29 <sup>****</sup>	0.56	0.46-0.68
Ed Neglect <sup>*</sup> (time>75 mo)	3.10	0.16	0.02-1.23	--	--	--
Number Reports <sup>*</sup> time in months	8.56 <sup>**</sup>	1.02	1.01-1.03	9.99 <sup>**</sup>	1.02	1.01-1.03
In-Home <sup>*</sup> time in months	--	--	--	3.91 <sup>*</sup>	1.01	1.00-1.03



\* p<.05

\*\* p<.01

\*\*\* p<.001

\*\*\*\* p<.0001

+ Wald Sandwich  $\chi^2 = 151.564, df = 19, p < .0001$

† Wald Sandwich  $\chi^2 = 195.6129, df = 17, p < .0001$

**TABLE 5**  
 Cox regression models of male and female delinquency petitions: AFDC/TANF + Maltreatment report (CAN) compared to CAN only

Sample group	Females (n=934) <sup>+</sup> $\chi^2$	Hazard ratio	95%CI	Males (n=1,001) <sup>†</sup> $\chi^2$	Hazard ratio	95%CI
(CAN)						
AFDC						
+ CAN	0.93	1.23	0.81–1.88	9.19**	1.50	1.15–1.95
Race						
(White)						
Non-white	1.48	1.30	0.85–2.00	9.96**	1.51	1.17–1.94
Special education – Emotional disturbance						
(Not eligible)						
Eligible	4.32*	2.19	1.05–4.60	17.06***	2.17	1.50–3.14
Special Education – Learning disability						
(Not eligible)						
Eligible	0.03	1.04	0.68–1.58	1.87	1.21	0.92–1.59
Special Education – Other disability						
(Not eligible)						
Eligible	0.17	0.84	0.37–1.93	0.65	1.20	0.77–1.85
Foster care						
(No)						
Yes	0.02	0.96	0.54–1.70	0.003	0.99	0.65–1.51
In-home services						
(No)						
Yes	5.47*	1.45	1.06–1.99	1.52	1.26	0.87–1.80
Number of reports						
(One)						
≥ Two	9.13**	0.32	0.15–0.67	0.06	1.03	0.81–1.30
Substantiation of first report						
(No)						
Yes	1.83	0.76	0.51–1.13	0.67	0.23	0.75–2.00

	Females (n=934) <sup>†</sup>		Males (n=1,001) <sup>‡</sup>			
	$\chi^2$	Hazard ratio	95%CI	$\chi^2$	Hazard ratio	95%CI
Maltreatment type						
[Neglect (not educational) & Mixed]						
Ed. neglect	3.12	1.46	0.96-2.23	7.14 <sup>**</sup>	1.57	1.13-2.20
Physical	3.79	1.46	0.99-2.13	3.30	1.26	0.98-1.61
Sexual	0.29	0.85	0.46-1.55	1.70	1.50	0.81-2.77
Maltx. age	60.53 <sup>****</sup>	3.12	2.34-4.15	51.07 <sup>****</sup>	2.09	1.71-2.56
Income						
Per \$1,000	4.36 <sup>*</sup>	0.98	0.97-0.99	1.35	1.01	0.99-1.02
Interaction term						
Substantiation <sup>*</sup> In-home services	--	--	--	4.44 <sup>*</sup>	0.49	0.25-0.95
Maltreatment age <sup>*</sup> Time in months	53.26 <sup>****</sup>	0.98	0.98-0.99	29.06 <sup>****</sup>	0.99	0.98-0.99
Number Reports <sup>*</sup> Time in months	11.58 <sup>**</sup>	1.02	1.01-1.03	--	--	--

\* p&lt;.05

\*\* p&lt;.01

\*\*\* p&lt;.001

\*\*\*\* p&lt;.0001

<sup>†</sup>Wald Sandwich  $\chi^2 = 120.967$ ,  $df = 14$ ,  $p < .0001$ <sup>‡</sup>Wald Sandwich  $\chi^2 = 116.95$ ,  $df = 16$ ,  $p < .0001$