An Abstract of the Thesis of


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Samuel Vuchinich

This investigation identifies one pathway by which domestic violence increases the potential for child abuse in both mothers and fathers of newborns. Longitudinal data from 181 couples with firstborn infants were used to test a mediational model linking domestic violence and the family’s risk of child abuse. Analysis of covariance showed that mothers and fathers who experienced domestic violence during the first year of their child’s life developed a significantly more negative view of their child. Hierarchical regressions showed that the direct effect of domestic violence on the family’s risk of child abuse was mediated by the mother’s negative view of the child and by the father’s negative view of the child. Application of findings for intervention and prevention are discussed.
Domestic Violence, Parents View of Their Newborn, and Risk for Child Abuse

by

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Dean of Graduate School

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

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William M. McGuigan, Author
Acknowledgment

Special thanks to Dr. Aphra Katzev and Tammy Henderson, M.S., for their expert assistance with data management and interpretation of data.
Contribution of Authors

Dr. Clara Pratt and Dr. Samuel Vuchinich were involved in the design and writing of this manuscript. Dr. Samuel Vuchinich also assisted in the analysis and interpretation of data.
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Dedication

For his sound advice, unconditional love, and for setting such a good example, I dedicate this work to my older brother, Charles B. McGuigan. Thanks for always being there.
Domestic Violence, Parents' View of Their Newborn, and Risk for Child Abuse

Introduction

Domestic violence has often been associated with increased risk of child maltreatment (Gayford, 1975; Giles-Sims, 1985; Ross, 1996; Straus, 1979; Straus & Gelles, 1986; Walker, 1984). High rates of abusive parental behavior have been found among both instigators and recipients of domestic violence. In a study of 100 battered women identified from medical visits, Gayford (1975) reported that 54% of the husbands and 37% of the wives had abused their children. Examining 400 residents of battered women’s shelters, Walker (1984) found the rate of parents abusing their children to be 53% for husbands and 28% for wives. Higher and less divergent rates of child abuse were found for husbands (63%) and wives (56%) in a study of 27 residents of battered women’s shelters (Giles-Sims, 1985).

Despite the established relationship between domestic violence and child abuse, the specific processes linking domestic violence and child abuse have yet to be identified. We propose that domestic violence creates a negative view of the child for both parents, whether they are the instigator or recipient of violence. More negative perceptions of the child, in turn, increase the likelihood of child abuse for both parents.

Indirect evidence of this process comes from studies that find certain parenting characteristics are correlated with increased risk of child maltreatment. Unrealistic expectations regarding children's behavior increase levels of attributions of negative intent to children (Azar, 1991a; Azar, 1991b; Miñer, 1986). Other parenting characteristics correlated with increased risk of child maltreatment include poor
disciplinary practices (Davies & Cummings, 1994), the perception of the child as difficult or demanding (Gelles & Cornell, 1985), and low attachment to the child (Cox & Owen, 1993; Howes & Markman, 1989). Abusive parents tend to judge children's behavior more harshly than non-abusing parents (Azar, Robinson, Hekimian, & Twentyman, 1984) and perceive their children's behavior more negatively than do outsider observers (Mash, Johnston, & Kovitz, 1983). These studies prompt a more detailed investigation of the role of parental negative perceptions of the child in the etiology of child abuse. Because risk of child abuse is highest in infancy, this study focuses on parents with children between 6 months and 1 year of age.
Research suggests that domestic violence can be a primary contributor to poor parenting and negative perceptions of the child. For example, couples who engage in physical aggression are less likely to demonstrate positive nurturing behavior (Burman, Margolin, & John, 1993), have poorer parent-child relations, and engage in frequent displays of anger (Cox, Owen, Lewis & Henderson, 1989; Holden and Ritchie, 1991). Working just outside the domain of domestic violence, Pretzer, Epstein, & Fleming (1985) found that parents in conflictual relationships use a dysfunctional pattern of attributions, overattributing negative motives to one another's behavior. Although such studies are consistent with a pathway from domestic violence to negative child perception and then to child abuse, they provide only partial support for these linkages.

Various theories have been used to explain the link between parents' aggressive behavior and child abuse. Innate aggression theories (Ardrey, 1966; Lorenz, 1966) and psychodynamic theories, both of which focus on "instinctual inclination" (Bandura, 1973, 13), have lacked empirical verification. Stress theories propose that triggering mechanisms set in motion the process of battering or abuse (Garbarino, 1976; Wolfe, Fairbank, Kelly, & Bradlyn, 1981). But the causal order of stress and battering has been difficult to establish. The frustration-aggression hypothesis proposes that distress caused by aversive events leads to aggressive behavior directed towards the frustrating agent, or to an unrelated target (Felson, 1992).

Finally, social learning theory has been frequently used to explain how domestic violence is related to child abuse (Carlson, 1977; Merrill, Hervig, & Milner, 1996; Widom, 1989). According to social learning theory couples who experience domestic
violence develop a pattern of violent behaviors in managing intimate relationships (Bandura, 1977). Social learning theory provides a strong conceptual foundation for the general relationship between domestic violence and child abuse. But why the child is chosen as the target of the parents' learned aggression is unexplained.

One way child directed aggression might be activated is based on cognitive attributions parents form regarding their child. To better understand the link between domestic violence and child abuse, the present study uses social cognition theory to describe a process through which the learned aggression of domestic violence contributes to parents' forming negative perceptions of the child which, in turn, leads to increased risk of child abuse.

Social cognition theory provides a promising explanation of how parents' attributions about their child may be affected by exposure to domestic violence. Conflict between adult partners has been found to affect their cognitive processing (Holtzworth-Munroe, 1992), and significantly increase their negative attributions of other family members (Fincham, Bradbury, & Scott, 1990). Violent interactions between parents have spillover effects on other family relationships (Brody, Arias, & Fincham, 1996). Parents' attributions about one another are related to the attributions they make about their child (Fincham & Grych, 1991). For example, one study found "a consistent negative relationship between marital happiness and parental negativeness toward the target child" (Johnson & Lobitz, 1974, p. 200).

Parents' negative perceptions of their own relationship are also related to increased parent-child conflict, poorer parenting practices (Brody, Pillegrini, & Siegal, 1986) and harsher child discipline (Emery, 1982). Further, discipline issues may be a
source of conflict among couple's who are transitioning to parenthood. Parents are more likely to develop a negative view of their child when the child is perceived as the source of conflict (O'Leary & Emery, 1984; Patterson, 1982).

Some researchers suggest that there may be gender differences in parental attributions and parental behavior. Attributions and behavior are more strongly related among mothers than among fathers (Bradbury & Fincham, 1992; Johnson & Lobitz, 1974). It has been speculated that this gender specific pattern occurs because, compared to fathers, mothers engage in more attributional activity and are more sensitive to relationship events (Bradbury, Beach, Fincham, & Nelson, 1997). In contrast, researchers have found that father-child relationships are more sensitive to the effects of marital problems than are mother-child relationships (Brody, Pellegrini, & Sigel, 1986; Jouriles & Farris, 1992). These researchers have proposed that mothers' attributions are specific and limited to the context of the couple, while fathers' attributions are broader and permeate entire family systems (Brody, Arias, & Fincham, 1996).

The present study will examine the gender differences in parent's attributions of their child, and the effects of each parent's attributions on child abuse risk. We predict that during the first year of their child's life domestic violence will have a significant effect on each parents' attributions of the child, and that each parent's attributions will have a significant effect on the risk of child abuse.

The first year of a child's life is a particularly critical time for families. Evidence suggests the transition to parenthood is potentially stressful for couples (Bell & Harper, 1977; Rossi, 1968). It is during the early child rearing years, particularly infancy, that marriages are most discordant (Belsky & Rovine, 1990) and children are at greatest risk
of abuse (Oregon State Office for Services to Children and Families, 1996; Pagelow, 1984; Straus, 1979). During the child’s first year, parents initiate their relationship with the child, establish expectations for the child’s behavior, and develop discipline strategies. Examining family relationships during the first year of child rearing provides an opportunity to assess the effect of domestic violence on the formation of each parent’s view of the child, and the effects of domestic violence and each parent’s view of the child on the family’s risk of child abuse.

Figure 1.
The hypothesized effect of domestic violence on family’s risk of child abuse

The hypothesized model (Figure 1) of the effects of domestic violence on child abuse risk is framed within the family. The model investigates the direct effect of domestic violence on the family’s risk of child abuse and the indirect effect mediated by each parent’s attributions of the child. The hypothesized model posits that the link between domestic violence and child abuse risk is mediated (changed) by the parents’ view of the child. Social cognition theory explains how domestic violence influences parents’ cognitive attributions of the child and increases the parents’ risk of child abuse.
The current study tests whether, over time, exposure to domestic violence increases the potential for child abuse via the parent’s increased negative view of the child during infancy. Two hypotheses are examined: (a) During the first year of the child’s life, both mothers and fathers who experience domestic violence develop significantly more negative views of their child than do parents who do not experience domestic violence. And, (b) during the first year of the child’s life, parents’ exposure to domestic violence, and each parent’s view of the child, are significantly associated with the family’s increased risk of child abuse.

Limitations of previous studies. The present study seeks to address many of the limitations of previous studies that examined domestic violence and child abuse. For example, many past examinations have been cross-sectional and have drawn samples from clinical referrals, police reports, women’s shelters, and hospital records of domestic assaults (Dobash & Dobash, 1979; Flynn, 1977; Pagelow, 1992). These studies lacked the comparative power of a well-matched control group and a longitudinal investigation. Reported statistics typically described basic parental demographic characteristics, but the point in the family life cycle has varied across studies. Studies typically reported child demographics such as sex and age, but age has varied as much as 18 years within the same study. In contrast, the present longitudinal study includes comprehensive parental demographics that are empirically related to child abuse. To enable meaningful comparisons, the study includes only intact couples, who are at the same point in the family lifecycle, with children of similar ages. Specifically, the focus of the present study are couples with firstborn infants who either have or have not experienced domestic violence while living together during the first year of their child’s life.
Methods

Context of the research. Data for the present analysis were obtained from 181 families served by Oregon Healthy Start, a primary prevention program designed to prevent child abuse and neglect. Data were gathered during six and twelve month family progress assessments. Oregon Healthy Start is modeled after Healthy Families America (HFA), a national initiative adopted in 1992 by the National Committee to Prevent Child Abuse (National Committee to Prevent Child Abuse, 1996). The Healthy Start program targeted all families with firstborns in 12 Oregon counties during a three-year period (July 1994 to September 1997). At or near the time of the child’s birth all first time families were screened using the Hawaii Risk Indicators Scale (Hawaii Family Stress Center, 1994). Families screened as potentially higher risks were further assessed using the Kempe Family Stress Interview (Orkow, 1985). Families identified as being at risk for child abuse or other poor child outcomes were offered weekly home visits and extensive family support services by trained paraprofessionals. Participation in all screenings, assessments and home visitations were voluntary.

Participants. Cases were drawn from the sample of all families (N = 655) who received Healthy Start home visitation services for one year during the study period. The present analysis includes only intact couples, living with their firstborn child, and having no one else in the household. As a further criterion, only couples who experienced domestic violence during both the first and last six months of the year, and couples who did not experience domestic violence at anytime during the year, were included in the analysis. Adherence to these criteria resulted in a sample of 181 couples (n = 181), of whom 34 (19%) experienced domestic violence and 147 (81%) did not.
Based on t-tests, there were no significant differences on demographic variables between families who experienced, and families who did not experience, domestic violence. Respective mean values for violent and nonviolent families were as follows: (a) mothers’ age, 21.71 (SD = 4.23) and 21.44 (SD = 5.66); (b) fathers’ age, 24.28 (SD = 6.10) and 25.27 (SD = 7.75); (c) mothers’ years of education, 10.38 (SD = 3.01) and 10.58 (SD = 2.94); (d) fathers’ years of education, 11.09 (SD = 2.86) and 10.72 (SD = 2.80); and (e) monthly family income $748 (SD = $443) and $889 (SD = $449).

Nonsignificant chi-square analyses indicated couples who experienced domestic violence and couples who did not, respectively, were comparable on the following additional variables: (a) married, 44% and 48%; (b) male firstborns, 56% and 54%; (c) mothers worked full time, 14% and 21%; (d) fathers worked full time, 71% and 75%; (e) mothers were white, non-Hispanic, 62% and 69%; and (f) fathers were white non-Hispanic, 56% and 60%. Approximately one third (34%) of the parents in the total sample were Hispanic, with 9 (5%) parents being African, Asian, or Native American.

*Family’s risk of child abuse.* To eliminate parents’ self-report bias on socially unacceptable behaviors, most home visitation programs rely on trained home visitors to assess family outcomes. Based on observations made during the weekly home visits, Healthy Start home visitors assessed each family’s progress every six months, using multiple-item measures of child development, parenting skills, and family functioning.

Previous research has found several family functioning variables to be linked to increased child abuse risk. These include failing to provide nurturing care (Katzev, Pratt, Henderson, & Ozretich, 1997), lack of positive parent-child interactions (Kowal, Kottmeier, Ayoob, Knomives, Robinson, & Allen, 1989), unstable housing (Gray, Cutler,
Dean, & Kempe, 1979), lack of a social support network, (Barth, Hacking, & Ash, 1988), and ineffectiveness in accomplishing goals and assuming responsibility (Barth, 1986). In a study of a home visitation program comparable to Healthy Start, Kowal, et al. (1989) used several of these family level variables as an indicator of child abuse risk.

In the present analysis, home visitors’ twelve-month assessments of the family included six family functioning variables that have been empirically related to child maltreatment (National Committee to Prevent Child Abuse, 1996). These six items included “provides nurturing care”; “positive parent-child interactions”; “maintains a stable home”; “has positive social support network”; “reliable, keeps appointments”; and “meets individual service plan goals”. Items were rated on a 5-point scale indicating frequency of occurrence, ranging from almost always (0) to never (4). Item scores were summed and divided by 6 to produce a total scale score ranging from 0 - 4. Higher scores indicated a family’s greater risk of child abuse. Factor analysis demonstrated that all items from the scale loaded clearly on one dimension, with high internal consistency (Cronbach’s alpha = .85).

To assess the validity of the scale as a measure of the family’s risk of child abuse, the scores for all families (N = 655) served by Healthy Start during the study period were correlated with the Kempe Family Stress Interview. The Kempe Interview is an established measure of child abuse risk (Murphy, Orkow, & Nicola, 1985; Orkow, 1985). Higher Kempe scores have been associated with significantly higher incidence of confirmed abuse (Katzev, et al. 1997). The six item family child abuse risk scale was found to be significantly correlated with the Kempe Family Stress Interview scores (r = .57, p < .001).
Domestic violence. Domestic violence was defined as any act of physical aggression between partners with the intent to do harm. Home visitors were trained to assess the presence of domestic violence through observation, and direct questioning of both parents. Domestic violence was dichotomized as “not present during the first or last 6 months of the year” (0) and “present during both the first and last six months of the year” (1). Available data did not distinguish which parent instigated the violence, or the level of violence. Research has shown women are victimized to a much greater extent than men (Flynn, 1977; Gelles & Cornell, 1985; Straus, 1976), with five women victimized for every one man (U.S. Department of Justice, 1995).

Consistent with previous research that has linked domestic violence to child abuse the Oregon State Office for Services to Children and Families (1996) reported that in 1995 and 1996, domestic violence was present in over 22% of Oregon families with confirmed child abuse or neglect. Within our sample of 181 families there were eleven cases (6%) of confirmed child abuse during the study period. Logistic regression showed that domestic violence was over 6 times more likely to be present in the families with confirmed abuse.

Parent’s view of the child. Each parent’s view of the child was measured with four items empirically related to child abuse. These included (a) “parent has unrealistic expectations of child’s behavior” (Milner, 1986); (b) “parent sees child as difficult and provocative” (Gelles & Cornell, 1985); (c) “parent sees child as deserving of punishment” (Davies & Cummings, 1994); and (d) “parent shows a lack of bonding with child” (Cox & Owen, 1993; Howes & Markman, 1989). Items were rated on a 3-point scale ranging from not an issue (0) to a severe issue (2). Scores were summed to produce
a total scale score ranging from 0 - 8. Higher scores indicated a more negative view of the child. Factor analyses showed all items consistently loaded on one dimension. The scale had high internal consistency with Cronbach’s reliability alpha’s ranging from .71 to .83. Each parent’s view of the child was measured at six and twelve months.

Control Variables. Based on prior research, seven additional variables linked to child abuse risk and/or interpersonal violence were included in the present analysis as statistical controls. Ross (1996) found a significantly higher probability of violent parents abusing a male child. Child’s gender was included in the present analysis as male child (1) versus female child (0). National data indicate white non-Hispanics have a lower child abuse rate than Hispanics and Blacks (National Research Council, 1993). Thus, each parents’ ethnicity was included as white non-Hispanic (1) other ethnicity (0). Gelles and Cornell (1985) report fathers who work full time are less likely to abuse their children than fathers who are unemployed or work part-time. Other studies have proposed that nonworking mothers are more likely to be abusive (Steele & Pollack, 1974). Each parents work status was included in the present analysis as works full time (1) does not work full time (0). Other researchers reported cohabiting couples appeared to be more violent than married couples (Stets & Straus, 1990; Yllo & Straus, 1981), and that interpersonal violence decreased as couples age (U.S. Department of Justice, 1995). Marital status was included in the present analysis as married (1) nonmarried (0), and ages are included, measured in years. A recent study by Merrill, et al.(1996) showed that parental drug or alcohol abuse and parental history of childhood abuse were the strongest predictors of child abuse risk in both husbands and wives. Thus, these variables were included in the
present analysis as current drug or alcohol abuse (1) versus no current drug or alcohol abuse (0), and history of childhood abuse (1) versus no history of childhood abuse (0).

Table 1.
Means and standard deviations for all variables

<table>
<thead>
<tr>
<th></th>
<th>Mother</th>
<th>Father</th>
<th>Family</th>
</tr>
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<tbody>
<tr>
<td>Age in years</td>
<td>21.5 (5.4)</td>
<td>25.1 (7.5)</td>
<td></td>
</tr>
<tr>
<td>Work status (full time/not)</td>
<td>0.20 (0.4)</td>
<td>0.74 (0.44)</td>
<td></td>
</tr>
<tr>
<td>Ethnicity (white non-Hispanic/not)</td>
<td>0.68 (.47)</td>
<td>0.60 (0.49)</td>
<td></td>
</tr>
<tr>
<td>Substance abuse (yes/no)</td>
<td>0.10 (0.3)</td>
<td>0.28 (0.45)</td>
<td></td>
</tr>
<tr>
<td>Childhood history of abuse (yes/no)</td>
<td>0.79 (0.4)</td>
<td>0.70 (0.46)</td>
<td></td>
</tr>
<tr>
<td>Negative view of child (range 0 - 8)</td>
<td>0.41 (1.0)</td>
<td>0.52 (1.1)</td>
<td>0.55 (0.5)</td>
</tr>
<tr>
<td>Child’s gender</td>
<td></td>
<td></td>
<td>0.47 (0.5)</td>
</tr>
<tr>
<td>Marital status (married/cohabiting)</td>
<td></td>
<td></td>
<td>0.19 (0.39)</td>
</tr>
<tr>
<td>Domestic violence (yes/no)</td>
<td></td>
<td></td>
<td>0.68 (0.61)</td>
</tr>
<tr>
<td>Family risk of child abuse (range 0 – 4)</td>
<td></td>
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Further data considerations. In regression analyses employing a mediational design model, the possibility of increased measurement error caused by multicollinearity must be examined. Multicollinearity was not an issue in the present analysis. All variables made independent contributions to the regression analyses. Variance inflation factors indicated that multicollinearity did not bias estimates in the regressions.

An additional consideration was missing values on some of the fathers’ demographic variables. Expectation maximization has been recommended as a solution to missing data problems (Little & Schenker, 1995) and was employed in the present analysis. In the simplest definition, expectation maximization employs a series of equations that incorporate a stochastic error term in the imputation, estimating the value of missing data based on variables with complete data. Missing data in this study appears to be random and distributed evenly among couples experiencing, and not experiencing, domestic violence. There were no missing values for criterion variables.
**Statistical analysis.** Each planned analysis was conducted separately for mothers and fathers due to the high bivariate correlation between the mothers and fathers view of the child at twelve months ($r = .802$). This allowed us to explore the possibility that gender differences might exist. To test our first hypothesis, an analysis of covariance (ANCOVA) with repeated measures was employed. We tested whether domestic violence was associated with the change in the parent’s view of the child from six months to twelve months, while controlling for the effects of the parent’s age and history of childhood abuse.

To test our second hypothesis, blockwise hierarchical linear regressions were performed separately for mothers and fathers. In block one, the family’s risk of child abuse was regressed on the parent’s age, ethnicity, marital status, work status, history of childhood abuse, current substance abuse, and the child’s gender. Domestic violence was added in block two. Our mediator variable, the parent’s view of the child, was added to the final regression equation in block three.
Results

The effect of domestic violence on parents’ negative view of the child. Mothers and fathers experiencing domestic violence had a more negative view of their child at both six and twelve months (Table 2) compared to mothers and fathers who did not experience domestic violence. In addition, parents who experienced domestic violence showed a greater increase in their negative view of the child from six to twelve months compared to parents who did not experience domestic violence.

Table 2.
Means and standard deviations of parents negative view of their child, by domestic violence status

<table>
<thead>
<tr>
<th></th>
<th>Mothers</th>
<th></th>
<th>Fathers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6 Months</td>
<td>12 Months</td>
<td>View Change</td>
<td>6 Months</td>
</tr>
<tr>
<td>DV Parents</td>
<td>.719</td>
<td>1.16</td>
<td>.441</td>
<td>1.28</td>
</tr>
<tr>
<td>(n=34)</td>
<td>(1.16)</td>
<td>(1.83)</td>
<td></td>
<td>(1.37)</td>
</tr>
<tr>
<td>Non-DV Parents</td>
<td>.197</td>
<td>.231</td>
<td>.034</td>
<td>.249</td>
</tr>
<tr>
<td>(n=147)</td>
<td>(.581)</td>
<td>(.549)</td>
<td></td>
<td>(.577)</td>
</tr>
<tr>
<td>Total Parents</td>
<td>.295</td>
<td>.406</td>
<td>.111</td>
<td>.444</td>
</tr>
<tr>
<td>(n=181)</td>
<td>(.750)</td>
<td>(.996)</td>
<td></td>
<td>(.883)</td>
</tr>
</tbody>
</table>

a Range = 0 - 4
b DV = Domestic Violence

We calculated 2 X 2 (domestic violence by time) ANCOVAs to examine the effect of domestic violence on the change in each parent’s view of the child from six months to twelve months, controlling for the effects of the parent’s age and history of childhood abuse. Mothers’ view of the child became more negative from six months to twelve months. For the total sample of mothers, the change in the view of the child from
six months to twelve months approached significance, $F(1, 179) = 3.81, p = .052$. Of greater interest was the significant interaction between experiencing domestic violence and the change in the mother’s view of the child, $F(1, 179) = 5.37, p = .022$. The view of the child became significantly more negative for mothers who experienced domestic violence than for those mothers not exposed to domestic violence.

Figure 2.
Mothers’ negative view of the child at 6 and 12 months by domestic violence status

For the total sample of fathers, the change in the view of the child by time was not significant. But results did show a significant interaction between domestic violence and the change in the fathers’ view of the child, $F(1, 179) = 6.65, p = .011$. For fathers who
experienced domestic violence, views of the child became significantly more negative compared to fathers who did not experience domestic violence. This analysis supports our first hypothesis. During the first year of the child’s life, both mothers and fathers who experienced domestic violence developed a significantly greater negative view of their child compared to mothers and fathers who had not experienced domestic violence.

Figure 3.
Fathers’ negative view of the child at 6 and 12 months by domestic violence status

*Testing the mediational model.* According to Baron & Kenny (1986) four conditions must be met to show that a variable mediates, or changes, the relation between an independent and dependent variable. To test our model, separate regression analyses
were conducted for mothers and fathers. The first condition requires that the independent variable significantly affect the mediator. We found that experiencing domestic violence during the first year of the child's life significantly predicted both the mother's view of the child at twelve months ($b = .366, p < .001$) and the father's view of the child at twelve months ($b = .556, p < .001$). Second, the independent variable must significantly affect the dependent variable. Regression analysis showed domestic violence significantly predicted the family's risk of child abuse ($b = .301, p < .001$). Third, the mediator must significantly affect the dependent variable. There were significant associations between the family's child abuse risk and both the mother's view of the child ($b = .425, p < .001$) and the father's view of the child ($b = .321, p < .001$).

The fourth condition for a mediational model is that after controlling for the effect of the mediator, the significant effect of the independent variable on the dependent variable must be eliminated or reduced. This condition was met by our model; the effect of domestic violence on the family's risk of child abuse was reduced when controlling for the mothers' view of the child (from $b = .301, p < .001$ to $b = .168, p < .05$). The effect of domestic violence on the family's risk of child abuse was also reduced when controlling for the fathers' view of the child (from $b = .301, p < .001$ to $b = .177, p < .05$). Because our model met the four established conditions, we used a mediated effect model (see Figure 1) to test the second hypotheses.

*Effects of domestic violence and parent's view of the child on child abuse risk.* A blockwise hierarchical regression analysis (Tables 3 & 4) was used to first examine the contribution of the control variables to the family's risk of child abuse, in block one. The additional effect of domestic violence was examined in block two. The mediation effect
of the parents’ view of the child was entered in block three, the final regression equation. Separate regressions were performed for mothers and fathers.

Table 3.
Hierarchical regression of the association between domestic violence, mothers’ view of the child, and family child abuse risk

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Block 1</th>
<th>Block 2</th>
<th>Block 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother’s age</td>
<td>-.277***</td>
<td>-.282***</td>
<td>-.239**</td>
</tr>
<tr>
<td>Mother’s substance abuse</td>
<td>.258***</td>
<td>.180*</td>
<td>.131</td>
</tr>
<tr>
<td>Child’s gender</td>
<td>-.133</td>
<td>-.140*</td>
<td>-.153*</td>
</tr>
<tr>
<td>Mother’s ethnicity</td>
<td>-.112</td>
<td>-.083</td>
<td>-.103</td>
</tr>
<tr>
<td>Mother’s work status</td>
<td>-.030</td>
<td>-.019</td>
<td>-.050</td>
</tr>
<tr>
<td>Marital status</td>
<td>-.004</td>
<td>.006</td>
<td>.025</td>
</tr>
<tr>
<td>Mother’s childhood abuse</td>
<td>.035</td>
<td>.017</td>
<td>.047</td>
</tr>
<tr>
<td>Domestic violence</td>
<td></td>
<td>.244**</td>
<td>.127</td>
</tr>
<tr>
<td>Mother’s view of the child</td>
<td></td>
<td></td>
<td>.346**</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.157</td>
<td>.209</td>
<td>.307</td>
</tr>
<tr>
<td>$R^2$ change</td>
<td>.157</td>
<td>.053</td>
<td>.098</td>
</tr>
<tr>
<td>$F$ change</td>
<td>4.59***</td>
<td>11.42**</td>
<td>24.14***</td>
</tr>
</tbody>
</table>

*a Standardized beta coefficients are reported

*p < .05, **p < .01, ***p < .001

Examination of Table 3 shows that for mothers, 15.7% of the variance in family child abuse risk was explained by the mother’s age, the child’s gender, and the mother’s substance abuse (block one). In block two, domestic violence made a significant independent contribution to family child abuse risk, significantly raising the explained variance to 20.9%. The mediator variable, mother’s view of the child at twelve months, was then entered in block three. Results show the mother’s age, and the child’s gender remained significantly related to the family’s risk of child abuse. The mother’s view of the child was the strongest predictor in the final model, significantly raising the explained variance to 30.7%. Mother’s substance abuse, and experiencing domestic violence, were no longer significant. These results evidence our predicted mediation effect. The
significant effect of domestic violence \((p < .01)\) on the family's risk of child abuse, found in block two, was eliminated in block three after controlling for the significant effect of the mother's negative view of the child.

Table 4.
Hierarchical regression of the association between domestic violence, fathers' view of the child, and family child abuse risk\(^a\)

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Regression entering steps</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Father's age</td>
<td>-.201**</td>
</tr>
<tr>
<td>Father's substance abuse</td>
<td>.280***</td>
</tr>
<tr>
<td>Child's gender</td>
<td>-.130</td>
</tr>
<tr>
<td>Father's ethnicity</td>
<td>-.155*</td>
</tr>
<tr>
<td>Father's work status</td>
<td>-.003</td>
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<tr>
<td>Marital status</td>
<td>.011</td>
</tr>
<tr>
<td>Father's childhood abuse</td>
<td>-.070</td>
</tr>
<tr>
<td>Domestic violence</td>
<td>.198*</td>
</tr>
<tr>
<td>Father's view of the child</td>
<td></td>
</tr>
<tr>
<td>(R^2)</td>
<td>.170</td>
</tr>
<tr>
<td>(R^2) change</td>
<td>.170</td>
</tr>
<tr>
<td>(F) change</td>
<td>5.05***</td>
</tr>
</tbody>
</table>

| Standardized beta coefficients are reported |
|\( *p < .05, \ **p < .01, \ ***p < .001 \)|

Examination of the model for fathers (Table 4) shows the significant effects of the father's age, ethnicity, and substance abuse accounted for 17% of the variance in the family's risk of child abuse (block one). In block two, domestic violence made a significant independent contribution to family child abuse risk, above and beyond the effect of the control variables in block one. Domestic violence significantly raised the variance explained by the model to 20%. Father's negative view of the child at twelve months was entered in block three. For fathers, the negative view of the child was the strongest predictor of the family's risk of child abuse, significantly raising the explained variance to 22.7%. Father's age and ethnicity remained significant, but father's substance
abuse and domestic violence were no longer significant. Results support our predicted mediation effect. The significant effect of domestic violence ($p < .05$) on the family's risk of child abuse, found in block two, was eliminated when controlling for the significant effect of the father's negative view of the child.
Discussion

This study provides new information on how domestic violence is linked to child abuse risk. Like previous studies, this study found a direct association between domestic violence and risk of child abuse. Our analysis also shows that domestic violence increases the risk of child abuse indirectly, by undermining the parent’s view of their child. Cognitive attributions have been a part of theoretical discussions of the impact of domestic violence on child abuse (Gelles & Cornell, 1985). The present study specifies the nature of this impact.

The most important finding in this study is that experiencing domestic violence, as an instigator or a victim, significantly increases both mother’s and father’s negative views of their child. In turn, these negative views increase the child’s risk of being abused. The high bivariate correlation of the mother’s view of the child and the father’s view of the child ($r = .802$) prohibited their inclusion in the same regression. But analyzed separately, each parent’s cognitive attributions toward the child made a significant contribution to the family’s risk of child abuse. In at-risk families with newborns, each parent’s negative view of the child mediates the effect of domestic violence on the family’s risk of child abuse.

Identification of the specific mechanisms by which domestic violence contributes to parents’ negative view of their child is beyond the scope of this study. A key question is how problems in the adult relationship are transferred to the child. One theoretically plausible explanation of these findings that parallels cognition theory is the pattern of “scapegoating”. Parents in dysfunctional relationships often come to blame the child for their problems (Minuchin, Baker, Rosman, Liebraun, Milman, & Todd, 1975; Vuchinich,
Wood, & Vuchinich, 1994). Blaming the child would contribute to parent’s forming a negative view of the child. In a family plagued by domestic violence, blame may be more likely to result in abusive behavior toward the child. The finding that domestic violence promotes a more negative view of the child is consistent with previous studies that have shown links between spousal relationships and parent-child relationships (Brody, et al. 1996; Brody, et al. 1986; Cox, & Owen, 1993).

Our study demonstrates the importance of this connection in the etiology of child abuse in at-risk families with newborns. Establishing this cognitive link has important implications for programs seeking to prevent child abuse and/or improve family relations in households experiencing domestic violence. Once maladaptive cognitions have been identified, cognitive restructuring can be used to improve each parent’s view of the child and minimize the effect of domestic violence on child abuse, whether the parent was the instigator or recipient of violence.

Cognitive restructuring has been recommended as an effective method of treating parents who abuse their children (Azar, 1997). Using cognitive restructuring techniques, intervention specialists can challenge parent’s maladaptive beliefs and replace them with more adaptive ones. Restructuring techniques include discussions with concrete examples, modeling conflict resolution skills, guided imagery, communication techniques that increase parents’ perspective taking, and role-playing. Group treatment and home visitation have been suggested as effective methods of delivery for cognitive restructuring programs designed to reduce child maltreatment (Azar, 1997).

While the findings in this at-risk sample in one state may not generalize to the entire U.S. population, they contribute to the on-going efforts to isolate causes of child abuse.
abuse. In families with young children where domestic violence has been established, this research suggests that both parents, whether the instigator or victim of domestic violence, deserve interventions that will improve their cognitive view of their children and reduce their risk of child abuse. Our findings suggest that future studies examining the domestic violence – child abuse linkage should look beyond the direct behavioral effects of modeled aggression and consider individual cognitions and the complexity of family interactions. The strength of these findings warrants replication.

Infant child abuse is not a random occurrence. Better models of its etiology will allow identification of risk factors and greater success in prevention and intervention. Future research should examine both direct and indirect effects of causal variables in order to trace the complex pathways that lead from domestic violence to child abuse.
Bibliography


