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Differential Risks and Outcomes among Cases Referred to Child Welfare Agencies for
Domestic Violence Exposure

by

Jennifer Nicole Lawson

A dissertation submitted in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

in

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University of California, Berkeley

Committee in charge:

Professor Jill Duerr Berrick, Chair
Dean Jeffrey L. Edleson
Professor Jane Mauldon

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Abstract

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Professor Jill Duerr Berrick, Chair

As awareness has grown regarding the co-occurrence of domestic violence and child maltreatment, and the potential deleterious outcomes associated with children's exposure to domestic violence, some public child welfare agencies are expanding their reach to include domestic violence as a form of maltreatment warranting protective intervention. Research to date has not fully determined how or whether cases referred for domestic violence exposure differ from traditional cases of maltreatment. If appropriate policies and interventions are to be developed and implemented for these cases, clearer information is needed to explicate how these cases are currently being processed in the child welfare system, and what their unique features are compared to cases involving other forms of abuse and neglect.

Using baseline data from the second National Survey of Child and Adolescent Well-Being II, a nationally representative longitudinal child welfare survey, this study uses a retrospective case comparison design to produce descriptive findings on cases referred to child welfare agencies for domestic violence. This analysis compares three groups of cases: those in which domestic violence was the sole maltreatment allegation reported to child welfare, those in which domestic violence was alleged concurrently with other types of maltreatment, those in which only other maltreatment was reported. Using bivariate analyses and multivariate logistic regression analyses, this study addresses two research questions: 1) *What are the differential demographics, risk factors, and outcomes of CPS cases reported for domestic violence (alone or with other allegations) compared to cases reported for other maltreatment types?* and 2) *Is the presence of domestic violence as a maltreatment allegation an independent predictor of key child welfare outcomes after controlling for demographic and risk variables?*

Results of this analysis indicate that child welfare cases alleging domestic violence as a maltreatment allegation have unique profiles of risk, demographics, and outcomes that

distinguish them from cases alleging other maltreatment types. In the aggregate, cases reported for domestic violence have higher likelihood of substantiation than other cases, but despite higher substantiation rates, they are no more likely to receive child welfare services, and they are much less likely to result in out-of-home placement. These findings suggest that for many cases that come to the attention of child welfare agencies due to child domestic violence exposure, substantiated findings of maltreatment do not result in more intensive CPS interventions. In addition, these data show that, though cases alleging *only* domestic violence do not represent a substantial portion of the national child welfare caseload, they involve much lower levels of risk yet a much higher rate of substantiation than cases reported for other maltreatment. In sum, the findings from this study suggest that some lower-risk cases reported to child welfare agencies for domestic violence exposure could be appropriately targeted for alternative, non-investigative service approaches.

Dedicated to the women who raised me and gave me opportunities they never had. To my mother, Anna Gayle Lawson, and my memaw, Edith Joyce Martin, both of whom I miss every day.

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Chapter 1:
Introduction: Child Welfare and Domestic Violence

Recent decades have seen a shift in the child welfare system's response to domestic violence. Child maltreatment and domestic violence have long been widely acknowledged as social problems, but social interventions and policies around these issues developed on different paths which have only begun to converge in recent years as an emerging body of research has demonstrated that these problems are often interrelated (Hamby et al., 2010; Mills et al., 2000; Schechter & Edleson, 1994). Specifically, research indicates that child maltreatment and domestic violence frequently co-occur in the same families (Appel & Holden, 1998; Edleson, 1999; Hamby et al., 2010), and that children who witness domestic violence often have worse emotional and psychological outcomes than children who do not (e.g., Edleson, 1999; Hazen et al., 2006; Kitzmann et al, 2004; Wolfe et al., 2003). The growing awareness of the potential effects that domestic violence exposure can have on children has led to an expansion among some child welfare jurisdictions to define exposure to domestic violence as a form of child maltreatment, even in the absence of other abuse or neglect (Bragg, 2003; Edleson, 2004; English, Edleson, & Herrick, 2005; Friend, Shlonsky & Lambert, 2007; Nixon et al., 2007; Weithorn, 2001).

Historically, child maltreatment and domestic violence were regarded as two distinct social problems with different causes, interventions, and policy contexts (Banks et al., 2009; Fleck-Henderson, 2000: Kaufman Kantor & Little, 2003; Magen, 1999; Moles, 2008; Schechter & Edleson, 1994; Shlonsky, Friend & Lambert, 2007). In line with the view of these problems as distinct, the child welfare system did not always routinely intervene in domestic violence situations, treating domestic violence as a women's issue rather than a children's issue. This tendency has shifted since the 1990s, with many child welfare jurisdictions nationwide now intervening in response to reports of children being exposed to adult domestic violence in their homes (Bragg, 2003; English, Edleson, & Herrick, 2005; Friend, Shlonsky & Lambert, 2007; Hazen et al., 2004; Mills et al., 2000; Nixon et al., 2007; Weithorn, 2001).

As a result of the increased awareness of the overlap between child maltreatment and domestic violence, interventions for these two social problems are converging in the child welfare system. The difficulties associated with this convergence are understood in light of the differential functions, developmental paths, and policy contexts of child protection and domestic violence intervention systems (Banks et al., 2009; Mills et al., 2000; Schecter & Edleson, 1994). Child maltreatment is addressed by a system of federally funded, mandated, and monitored public child protection agencies that focus on the safety and well-being of children as their primary goals. In contrast, domestic violence is primarily addressed by a social service system that is voluntary and focused principally on the safety of women victims of domestic abuse (Banks et al., 2009; Fleck-Henderson, 2000; Schechter & Edleson, 1994). The increasing overlap of child protection and domestic violence service systems in response to child domestic violence exposure is characterized by some degree of tension between professionals and advocates in these respective groups due to the fundamental dissimilarities of their histories and frameworks (Banks et al.,

2009; Fleck-Henderson, 2000; Kaufman Kantor & Little, 2003; Magen, 1999; Schechter & Edleson, 1994). Some of the important distinctions between the two systems are summarized in Table 1.1, which was adapted from Fleck-Henderson (2000, p. 336).

Table 1.1 Services for Abused Women and Children (Fleck-Henderson, 2000)

	Child Protection	**Women's Services**
Priority	Protection of children, preservation of family	Empowerment of women, safety of women
Initiation	Usually not voluntary	Voluntary
Control	State has coercive power	No coercive power
Organization	Government bureaucracy, professionalized	Grassroots, democratic

There are distinct differences in several important dimensions of child protection and domestic violence service systems. Child welfare agencies view the best interest of children as their central priority, whereas domestic violence service providers prioritize the safety and empowerment of women, which can present a fundamental conflict in synthesizing the interventions for domestic violence and child maltreatment (Banks et al., 2009; Fleck-Henderson, 2000; Schechter & Edleson, 1994). Differences in initiation, control, and organization form additional divisions in the operating paradigms of the respective interventions and policies of child welfare and domestic violence service systems. Child welfare intervention is typically non-voluntary, and because public child protection agencies have legislative authority (including the authority to remove children from the custody of parents), they have coercive power to mandate compliance. On the other hand, women's domestic violence services are usually local, community-based, voluntary organizations with no coercive power over the women that they serve. Fleck-Henderson (2000) sums up the potential criticisms of each paradigm in stating, "The child protective system, in its ability to challenge parental rights, can disempower women. The battered women's movement, in its commitment to a woman's right to make her own choices, can neglect children's safety" (p. 336).

In localities where child welfare organizations have undertaken deliberate actions to develop collaborative responses with community DV providers, progress and successes have been achieved in multiple domains (such as better training, development of written guidelines for responding to DV, and sharing resources with DV providers), but ongoing challenges in implementation of collaborative efforts between systems persist and require continued efforts towards shared goals of preventing and treating child exposure to DV (Banks et al., 2009; Banks, Landsverk, & Wang, 2008). These ongoing challenges in collaboration have real-world implication for families. In one qualitative Canadian study,

women who had contact with both child welfare and DV service systems expressed frustration with the sometimes contradictory mandates of these respective paradigms of intervention, pointing to the need for continued attention to effective cross-system communication and collaboration (Hughes & Chau, 2012)

Despite the historical separation and contrasts of child welfare and domestic violence interventions and policies, the delineations are diminishing as child protection systems increasingly regard domestic violence as a target of attention related to child safety and well-being. In other words, there is an expanding intersection of domestic violence and child maltreatment, and this intersection is being addressed by the child welfare system in their interventions with families. There are distinct ways in which this intersection can be conceptualized. Most literature on this topic explores the *co-occurrence* of domestic violence and child maltreatment. Co-occurrence refers to the overlap of domestic violence with other forms of child maltreatment, such as physical abuse, sexual abuse, or neglect. In research examining co-occurrence, domestic violence and child maltreatment are seen as essentially separate phenomena that are linked because they often occur together in the same homes. The study of co-occurrence is important because concurrent child maltreatment and domestic violence may warrant collaborative responses by service systems to provide optimal assistance to the many families experiencing both issues (Banks et al., 2009; Mills et al., 2000; Schechter & Edleson, 1999). However, co-occurrence is not the same construct as the characterization of domestic violence as a form of child maltreatment in and of itself. Co-occurrence refers to the intersection of domestic violence *and* child maltreatment, which is conceptually distinct from domestic violence being regarded *as* child maltreatment. The latter entails the expansion of socially-constructed (and perhaps legally-constructed) definitions of child abuse and neglect to include children who have been exposed to domestic violence as victims of maltreatment.

In order to further explore the ways in which domestic violence and child maltreatment are connected, literature pertaining to their intersection will be examined. First, the links between domestic violence and child maltreatment will be reviewed and summarized, including exploration of both co-occurrence and domestic violence as maltreatment. The subsequent section is a brief summary of key research on the observed outcomes of children exposed to domestic violence compared to the outcomes of children not exposed. The implications of this research will then be critically assessed, including examination of potential problems associated with defining child exposure to domestic violence as maltreatment. Literature on child welfare system reponses to domestic violence will then be reviewed, and the chapter ends with a statement of the research questions and aims of the current study.

1.1. Intersections of Domestic Violence and Child Maltreatment

Shlonsky and Friend (2007) identify five separate ways in which children can be placed at risk of harm as a result of intersecting domestic violence (DV) and child maltreatment (p. 261):

- Child maltreatment that is not directly related to concurrent DV

- Child maltreatment that is a direct result of DV
- Emotional harm as a result of child exposure to DV
- Physical harm to a parent from DV which may inhibit that parent's abilities to meet child needs
- Emotional harm to a parent from DV which may inhibit that parent's abilities to meet child needs

This inventory of relationships between DV and child risk illustrates the point that the linkage between DV and child maltreatment is not unitary, but rather can take many different forms within different families. Some of these interactions reflect the co-occurrence of adult DV and child harm (child maltreatment that is not directly related to concurrent DV), while others reflect DV itself as a potential threat to children, either directly (emotional harm as a result of child exposure) or indirectly as a result of harm to the victimized parent (parent physical/emotional harm from DV that may inhibit parenting abilities). These two ways of viewing the interconnectedness of the problems – co-occurrence and DV *as* maltreatment – have potentially distinct implications for child welfare intervention.

1.1.1. Co-occurrence of Child Maltreatment and Domestic Violence

In examining the co-occurrence of these social problems, an important starting point is identifying the extent of the overlap. Accurate estimates of how often DV and child maltreatment co-occur in the same families are hard to obtain due to methodological difficulties that inhibit comparison across studies. Appel and Holden (1998) published the first extensive review of co-occurrence, although their review was limited to examination of the co-occurrence between DV and child physical abuse (excluding neglect and other forms of maltreatment). In their review, the authors concluded that "methodological inconsistencies across studies represented the largest impediment to arriving at an accurate estimate of the overlap" (pp. 583-584). Factors that make measurement of co-occurrence difficult include differences in sampling sources across studies (which produce "wildly divergent" estimates), variant definitions of abuse, single-informant reporting sources, and differing referent periods (Appel & Holden, 1998). Despite these methodological difficulties that pose barriers to accurate measurement, Appel and Holden (1998) synthesized existing research and approximated that child physical abuse occurs in 30-60% of homes where there is known DV, and this estimate is widely accepted and cited throughout the literature. Though this estimate is quite wide due to the methodological problems in estimation, the Appel and Holden figure converges with a more recent estitmate by Hamby and colleagues (2010) using the National Survey of Children's Exposure to Violence (NatSCEV), a nationally representative study of youth and/or their caregivers designed to examine the victimization of U.S. children across multiple domains, including witnessing partner violence and direct child maltreatment. Findings from the NatSCEV indicate that some 34 percent of children who were exposed to DV within the previous year had also been directly maltreated (Hamby et al., 2010). When considering lifetime prevalence, the estimate of co-occurrent DV and maltreatment reached nearly 59 percent (Hamby et al., 2010). Thus, the estimate that 30-60 percent of children who

witness DV are also directly maltreated appears stable across two studies spanning more than a decade.

Research also finds that the more severe and frequent the DV in a home, the greater the likelihood that there is also child maltreatment (Hartley, 2004; Kaufman Kantor & Little, 2003). Estimates suggest that DV is present in at least a third of child protective services (CPS) cases, and even more frequently among the most severe cases (English, Edleson, & Herrick, 2005; Fleck-Henderson, 2000; Hazen et al., 2004; Kaufman Kantor & Little, 2003; Kohl et al., 2005a), yet it may be under-identified by CPS caseworkers (Kohl et al., 2005a). In addition, a history of domestic violence has been found to be associated with an increased likelihood of child maltreament fatality (Magen & Conroy, 1998; Schechter & Edleson, 1994; Yampolskaya, Greenbaum, & Berson, 2009). Finally, DV may co-occur with multiple types of child maltreatment, including neglect as well as physical abuse and sexual abuse (Antle et al., 2007; Appel & Holden, 1998; Hartley, 2004; Kohl et al., 2005).

In addition to estimating the prevalence of co-occurring child abuse and DV, Appel and Holden (1998) proposed five potential models of co-occurrence, which are distinguished by the directionality and perpetrator of the abuse:

- *Unidirectional – Single Perpetrator*: In this model, the husband perpetrates violence against both the wife and child.

- *Unidirectional – Sequential Perpetrator*: This model describes a scenario in which the husband abuses the wife, and subsequently the wife abuses the child. In this model, the risk to the child is not directly from the perpetrator of the domestic violence, but from the victim.

- *Unidirectional – Dual Perpetrator*: This describes co-occurring abuse in which the husband is abusive to the wife, and both parents are abusive toward the child.

- *Bidirectional – Marital Violence*: This model shifts from an asymmetrical occurrence of partner violence (in which one parent is the perpetrator and the other is the victim) to a symmetrical pattern (in which both parents are violent towards each other). In this model, the parents are reciprocally abusive towards each other, and one or both parents are abusive towards the child.

- *Bidirectional – Family Dysfunction*: This model "adds a reciprocal relationship between the child's behavior and one or both parents" (p. 590). In this scenario, the child contributes to the family abuse dynamic through his or her behavior and interactions. Both bidirectional models operate from a systems perspective, which emphasizes the dynamic feedback patterns between parts of the family system.

These models suggest that there is not a singular pattern of co-occurrence in homes with both child abuse and DV, but rather DV can transpire concurrently with maltreatment in a multiplicity of ways Though Appel and Holden (1998) criticize extant research for failing to

distinguish between these contrasting models in examinations of co-occurring DV and abuse, all of these hypothetical models regard child maltreatment and domestic violence as separate processes, albeit ones that are often co-occurrent within families. The other view of the connection between these phenomena is that domestic violence does not merely co-occur with child maltreatment, but rather that it *is* child maltreatment. This perspective, which reflects an expanding definition of child maltreatment, is rooted in research suggesting that domestic violence exposure can be harmful to children even absent other maltreatment. This definitional expansion is discussed below, followed by a review of research on the potential effects of child exposure to DV.

1.1.2. Domestic Violence as Child Maltreatment

Defining DV exposure as maltreatment appears to represent a modern shift in the social construction of maltreatment in response to increased public awareness and knowledge about the harmful outcomes associated with child exposure. While there is general consensus that this shift is occurring to varying degrees across the child welfare system, identifying the extent to which child welfare agencies are adopting policies that treat DV as child maltreatment is difficult due to the lack of precise measurement data. The vast majority of states have not changed their statutory child maltreatment definitions to expand CPS reach to include DV exposure, but many have re-interpreted existing legal definitions of maltreatment to incorporate child exposure to DV under existing categories of maltreatment, such as emotional abuse, risk of physical abuse, or child neglect (Daigle, 1998; Hazen et al., 2004; Nixon et al., 2007; Weithorn, 2001; Zink et al., 2004). Because DV exposure is not a statutorily defined category of maltreatment in the majority of child welfare jurisdictions, there is a dearth of administrative data that would allow for the tracking of these allegations. As a result, there is currently little reliable information available indicating the scope or prevalence of the implementation of these policies and practices in child welfare agencies.

There are, however, indicators that affirm that this shift is occurring, and that some CPS jurisdictions are handling DV allegations as child maltreatment. There is limited information on child welfare involvement in DV cases in the completed state Child and Family Services Review (CFSR) reports. The CFSR is the federal process for reviewing states' performance on standardized child welfare outcome measures. During a review of a sample cases that had been opened for ongoing child welfare services (either in-home services or foster care), state child welfare administrators were asked to report the number of cases in which domestic violence was the "primary reason" for opening the case. Of the 20 states who had completed CFSR reviews as of 2009, the percentage of sampled cases opened *primarily* for domestic violence ranged from zero to 12% for foster care cases, and zero to 42% for in-home services cases (Taggart, 2009). In California, for example, the CFSR case review indicated that 5% of foster care cases and 8% of in-home services cases were classified with domestic violence as the primary reason for opening the case (USDHHS, 2008). The great variability in these percentages across states is likely an indicator of differential policies and procedures among child welfare jurisdictions. Though the sample size of reviewed cases per state is only 65, representing a very small number of cases from which to draw conclusions, the CFSR findings provide documentation that there

are cases being handled by the child welfare agencies in which domestic violence is the sole or primary reason for involvement, and that there are cases resulting in in-home services and foster care due to domestic violence as the primary cause.

Also in California, a recent state government report on administrative child welfare data showed that "threat of emotional abuse due to domestic violence" was present as a risk allegation at CPS hotline screening in 15.7 percent (n=29,612) of all cases reported in 2011 (N=188,536). Of the referrals in which DV was reported at case intake, 34.5 percent had DV as the *only* safety threat documented in the intake, indicating that DV was the maltreatment allegation triggering the investigation of some 10,204 child welfare cases in California in that year (Bogie, Freitag, & Healy, 2012). While these data are only from a single state for a single year, they are another indictator that domestic violence is being treated as an allegation of maltreatment warranting intervention by child welfare authorities.

At the federal level, there are also indicators of CPS intervention in DV as child maltreatment. The Child and Family Services Improvement and Innovation Act of 2011 authorized the Department of Health and Human Services to approve child welfare demonstration projects that "identify and address domestic violence that endangers children and results in the placement of children in foster care" (Pub. L. 112-34, section 1130(a)(3)(A)(ii)). While this legislation does not offer any prevalence figures, the federal authorization of services for children placed in foster care due to DV exposure serves as a signal that child welfare intervention in these cases is occurring nationally.

1.2. Child Exposure to Domestic Violence: Prevalence and Associated Outcomes

Prevalence. In examining DV exposure as a form of maltreatment subject to child welfare intervention, it is important to consider how prevalent exposure is, and what potential harm it may cause to children. Fantuzzo and Mohr (1999) point out the fundamental difficulties of attempting to quantify the prevalence of DV exposure among children, concluding that until more rigorous measurement methodologies are established and implemented, it can only be said that DV appears to occur in "large numbers of households with children" (p. 23). Edleson (2004) echoes the complexity of estimating prevalence based on existing data sources, concluding that it can be assumed that "many millions" of children per year are exposed to DV (p. 9). Extrapolating from multiple measurement sources, Carlson (2000), "conservatively" estimates that 10-20% of children *per year* are exposed to some form of DV in the home, with up to a third of all children witnessing DV at some point during their childhood. This figure converges with the national survey-based estimate offered by Straus (1992), who also reports that up to one third of children witness some type of violent incident between their parents during their childhoods. Both of these figures are also consistent with recent NatSCEV survey findings in which 27 percent of adolescents age 14-17 reported having witnessed at least one incident of partner violence in their home during their lifetime (Finkelhor et al., 2009).

Outcomes associated with child DV exposure. The shift toward defining DV as child maltreatment has grown from a body of literature indicating that exposure to DV is associated with poor outcomes related to child functioning. Numerous researchers have published summaries, partial or systematic reviews, and meta-analyses of studies that attempt to synthesize the outcomes associated with child exposure to DV (e.g., Edleson, 1999; Gewirtz & Edleson, 2007; Herrenkohl et al., 2008; Holt, Buckley, & Whelan, 2008; Kitzmann et al., 2003; Wolfe et al., 2003). The extant reviews have some variations in their outcomes of interest and have used different criteria for which studies to examine, but they produce a clear consensus that there is evidence of generally worse psychosocial outcomes among children who have witnessed DV compared to children who have not. Research on child outcomes associated with DV exposure is briefly summarized below using the domains of behavioral outcomes, cognitive outcomes, health outcomes, and long-term outcomes.

Behavioral and emotional functioning. Measurement of child outcomes in this domain typically falls into two subcategories: externalizing behaviors and internalizing behaviors. Externalizing behaviors refer to outwardly directed problems such as aggression and antisocial behavior. Internalizing behaviors refer to internally-focused problems such as fear, low self-esteem, anxiety, and depression. Children exposed to DV have been found to have more problems in both of these areas than children not exposed (Carlson, 2000; Edleson, 2004; Fantuzzo et al., 1991; Fantuzzo & Mohr, 1999; Gewirtz & Edleson, 2008; Hazen et al., 2006; Herrenkohl et al., 2008; Schnurr & Lohman, 2013). The emotional and behavioral outcomes associated with exposure may begin in very young children but not manifest until later. Recent survey research indicates that early childhood exposure to ongoing DV is associated with significant behavior problems in later childhood compared to the trajectories of children not exposed to DV (Holmes, 2013). In addition, the internalizing emotional disregulation associated with young children's DV exposure subsequently mediates externalizing behavior problems in later childhood (Katz, Hessler, & Annest, 2007). Middle-childhood onset of internalizing and externalizing problems associated with toddlers' exposure to DV may be more likely in homes where violence is repetitive and escalatory (Schnurr & Lohman, 2013).

Cognitive functioning and attitudes. Although there are fewer studies examining this category of outcomes, some research suggests that children who are exposed to DV may have lower verbal and quantitative cognitive skills and more difficulty with school tasks than unexposed children (Carlson, 2000; Fantuzzo & Mohr, 1999; Schnurr & Lohman, 2013), though there are mixed findings related to school performance and DV exposure (Edleson, 2004). Some findings also suggest a risk of developmental delays among child witnesses to DV (Carpenter & Stacks, 2009; Margolin & Gordis, 2000). In addition, child exposure to DV has been associated with increased acceptance of violence and/or use of violence as an adult (Carlson, 2000; Edleson, 2004; Fantuzzo & Mohr, 1999; Murrell et al., 2005).

Health outcomes. Research indicates that compared to other socioeconomically disadvantaged children, poor children who have been exposed to violent trauma are at substantially higher risk for health problems, including asthma, allergies, gastrointestinal

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problems, and colds or flus, and that the health outcomes exhibit a dose-response relationship with the severity of violent exposure (Graham-Bermann & Seng, 2005).

Long-term outcomes. Some research indicates that the difficulties associated with witnessing violence as a child can last into adulthood. Child exposure to DV has been linked to adult symptoms such as depression, low self-esteem, trauma symptoms, increased use of violence, and criminal behavior (Carlson, 2000; Edleson, 2004; Silvern et al., 1995; Wolak & Finkelhor, 1998). These long-term effects have been found to be independent of exposure to other childhood stressors such as parental substance abuse, divorce, or other forms of abuse (Silvern et al, 1995). Findings from a recent longitudinal study (the National Youth Survey Family Study) that followed a cohort of adolescents (N=1677) into adulthood also indicate that childhood witnessing of adult DV is associated with lower adult income and total net financial worth compared to children who do not witness DV, even after statistically controlling for race, gender, urbanicity, family structure, and socioeconomic status in adolescence (Covey, Menard, & Franzese, 2013).

Variance in individual outcomes. While research indicates that children exposed to DV appear to be cumulatively at risk of generally worse outcomes than unexposed children, it is essential to note that not all child witnesses to DV exhibit negative outcomes. Merely summarizing the *aggregate* differences in outcomes between exposed and unexposed children does not capture the immense variance in the experiences and outcomes of individual children (Edleson, 2004; Kitzmann et al., 2003; Edleson et al., 2007; Fantuzzo & Mohr, 1999; Magen, 1999). In other words, while there is evidence that DV exposure is associated with poorer outcomes among some children, there is also clear evidence that these associations do not extend to all children who are exposed (Edleson, 1999; Edleson, 2004; Gewirtz & Edleson, 2007; Jaffe et al, 1998; Kitzmann et al., 2003; Holtzworth-Monroe et al., 1997; Lang & Stover, 2008; Magen, 1999; Mills et al., 2000; Schechter & Edleson, 1999; Shlonsky & Friend, 2007). In many studies, as many as half of children exposed to DV exhibit no differences in outcomes compared to those who are not exposed (Kitzmann et al., 2003; Lang & Stover, 2008; Edleson, 2004). Where differences between exposed and non-exposed children are found, the effect sizes are often small (Edleson, 2004; Wolfe et al., 2003) and exhibit non-random variation that suggests unmeasured factors are contributing to the observed outcomes (Kitzmann et al., 2003). Edleson (2004) concisely addresses the issue of variability in outcomes, stating:

> How do we explain these findings? On the one hand it may be that our measures are just not sensitive enough to observe the entire range of harm done to these children through exposure to violence. It may also be that we have not followed children long enough to determine the true impact of violence exposure. On the other hand, it is also highly likely that children's experiences vary greatly in a number of ways. (p. 12)

Edleson goes on to suggest five domains of factors that are likely to influence the individual experiences and outcomes of exposed children:

- *The level of violence in each family.* The nature, severity, and frequency of violence vary across families. Differences in the level of violence that it is witnessed can produce vastly different experiences for children. In other words, not all children who witness violence are witnessing the same thing, and the differences in what is witnessed may have a great influence on resultant outcomes (Hamby et al., 2011)

- *The degree to which a child is exposed to violence.* Just as "violence" is not a unitary phenomenon, neither is "exposure." Children may be exposed to violence in many different ways, including eyewitnessing, hearing from another room, or seeing the aftermath (e.g., police intervention, injury to a parent). The proximity and nature of the violence likely influence the effects on the exposed child (Hamby et al., 2011).

- *Other stressors to which a child may be exposed.* Other risk factors for negative outcomes overlap with DV. As discussed previously, many children who witness DV may also be victims of other direct forms of maltreatment. In addition, DV can co-occur with parental substance abuse, mental health problems, poverty, housing instability, community violence, and other risk factors that are also known to be associated with poor outcomes for children. The presence of these or other stressors may interact with DV to produce greater overall harm for children with multiple risk factors (Herrenkohl et al., 2008).

- *The harm produced for a child.* The actual threat of harm to a child may vary depending on the degree to which she or he becomes involved in violent episodes. Children may be at variant levels of risk depending on their individual responses to a violent incident (Hamby et al., 2011).

- *How resilient a child (and his or her environment) is to violence exposure.* There are individual, family, and community assets that may offset the risks associated with exposure and thereby reduce negative effects (Herrenkohl et al., 1994). The impact of DV exposure appears to be moderated by many factors, only some of which are clearly understood to date (Gewirtz & Edleson, 2007).

This last point, that there appear to be a multitude of factors that may moderate the effects of DV exposure on child outcomes, is addressed throughout the literature. Protective and resiliency factors may explain the variance in individual outcomes observed among child DV witnesses, though research is far from clear in elucidating exactly what factors may influence any given child's response to DV exposure.

The Administration on Children, Youth, and Families, a federal agency within the Department of Health and Human Services, recently published findings from a comprehensive review of existing literature on protective factors and reported a number factors with empirical support ranging from "emerging" to "strong" that may explain resiliency among children exposed to DV (DSG, 2013). At the individual child level, sense of purpose and sense of optimism were identified as empirically supported protective characteristics, albeit at the weakest "emerging" level of evidence. Stronger support was

found for relational skills ("limited evidence"), self-regulation, and problem solving (both "moderate evidence") as protective factors at the individual level. At the relationship level, having positive peers was ranked as an emerging evidence-based factor promoting resilience, while caregiver well-being showed moderate evidence and parenting compentiences showed strong evidence as protective factors for DV exposed children. Finally, one community level factor, positive school environment, showed moderate evidence for promoting resilence for children exposed to DV (DSG, 2013).

Other resilience factors have also been identified elsewhere in the literature. Parent functioning (including competent parenting, strong family relationships, and lack of prior DV relationships) has been found to be a crucial factor in profiles of children who appear resilient to DV exposure (Graham-Bermann et al., 2009; Herrenkohl, 2008; Howell et al., 2010). Conversely, children exposed to DV who exhibit the worst problems are likely to have experienced more violence and have mothers with symptoms of depression and poor parenting skills than their more resilient peers (Graham-Bermann et al., 2009). According to a comprehensive systematic review examining empirically-supported protective factors for children exposed to DV, other factors found to promote resilience include child intelligence, school commitment, and religious involvement (Herrenkohl et al., 2008).

Gender and age have also been identified as possible factors influencing the development of negative responses to DV exposure. Some researchers report net differences in effects between boys and girls, concluding that boys appear more likely to experience externalizing symptoms such as aggression or antisocial behavior, while girls are more likely to experience internalizing symptoms such as anxiety or depression (Edleson, 1999; Wolak & Finkelhor, 1998). However, other researchers who have systematically reviewed literature on child DV exposure have not found such clear results with regard to age and gender (Herrenkohl et al., 2008). Kitzmann and colleagues (2003) found that research on outcomes by age and gender is inconclusive with no clear patterns; they report that some studies show differential effects on a range of psychosocial outcomes by age and gender, while other studies do not find such effects. Similarly, Carlson's (2000) review of prior research found no clear conclusion about gender effects across studies looking at behavioral outcomes of witnesses. Wolfe et al. (2003) found a small difference in effect size between boys and girls in their meta-analysis, but that difference disappeared when studies that examined only boys were removed. Moylan and colleagues (2010) found no stastically significant differences for externalizing or internalizing outcomes between boys and girls exposed to DV, with or without direct maltreatment.

The interactive effects of being a victim of other direct forms of abuse in addition to witnessing DV has also been examined, again with mixed findings. Carlson (2000), Edleson (1999), Fantuzzo and Mohr (1999), and Moylan and colleagues (2010) report that observed outcomes are generally worse for those who experience direct abuse in addition to witnessing domestic violence. However, the review by Kitzmann et al. (2003) found no differences in average effect sizes across studies when comparing domestic violence witnesses who were not physically abused with domestic violence witnesses who were also physically abused. Wolfe and colleagues (2003) were not able to meta-analytically synthesize the confounding effect of direct abuse across studies because they found only

four extant studies meeting inclusion criteria in which children who were both directly abused and exposed were distinguished from those who were only exposed; in looking at those studies individually, they found that they "suggest a small effect size for the difference between children who are combined witness/victims and those who are witnesses only" (p. 183).

Children may also show different responses to domestic violence exposure based on their personal coping mechanisms and internal reactions to witnessing violence (Carlson, 2000; Holt, Buckley & Whelan, 2008). Children may be at variant levels of harm depending on their individual responses; they may actively avoid witnessing violence, try to distract themselves during violent episodes, or they may try to intervene in the situation, all of which may have differential effects on individual reactions to violent exposure (Carlson, 2000; Edleson, 2004). Margolin and Gordis (2000) looked at coping skills among exposed children and concluded that whether children attempt to control the external situation or their own internal emotional reactions to the situation may produce different experiences of stress and subsequent outcomes. Edleson (1999) also found that the amount of time elapsed since violent exposure has an influence on negative outcomes, which appear to diminish as the time since the violence was witnessed gets longer. Carlson (2000) and Lang and Stover (2008) similarly report that poor outcomes are more strongly correlated with exposure to violence that is more recent, intense, and frequent.

1.3. Gaps and Limitations in the Literature: Problems with Defining DV Exposure as Maltreatment

In summary, researchers are in consensus on the conclusion that, in the aggregate, children exposed to DV exhibit worse outcomes than children not exposed to DV. Wolfe and colleagues (2003) concisely summarize this finding in their meta-analysis, stating, "The answer to whether or not children exposed to violence experience more difficulties than their peers emerged as an unequivocal yes" (p. 183). However, there are qualifiers to this conclusion that must be weighed in assessing the strength of these aggregate findings. First, research is equivocal and even contradictory on some points. Many findings are inconclusive or ambiguous and do not provide certainty on the effects of DV exposure (Carlson, 2000; Kitzmann et al., 2003). Even the meta-analysis by Wolfe et al. (2003), which produced an "unequivocal yes" on the question of whether exposed children experience worse outcomes than unexposed children found only a small average effect size across studies.

There are also major methodological problems in this research body as a whole that inhibit the ability to draw definitive conclusions (Edleson, 2004). While these problems do not invalidate that DV exposure has the potential to place children at signifant risk, they do raise concerns about the use of the current knowledge base to draw strong or definitive conclusions about what harm any given child might experience as a result of witnessing DV.

First, most of the extant research is correlational, retrospective, and cross-sectional, which poses problems with making inferences that DV exposure is the *cause* of any

observed outcomes (Carlson, 2000; Edleson, 1999, 2004; Herrenkohl et al., 2008; Kitzmann et al., 2003; Magen, 1999; Margolin & Gordis, 2000). Other methodological problems are also widespread and often noted by those who have published reviews of the literature. Edleson (2004) notes that out of the roughly 100 research studies he reviewed on the impact of child exposure to DV, only about one third distinguished children who were both exposed to DV and directly abused from those who were only exposed without direct abuse, with correspondingly two thirds of studies having no control group with which to compare exposed children. In their meta-analysis of studies measuring effects of child exposure to DV, Wolfe and colleagues (2003) also found that only a third of studies separated abused and exposed children from those only DV-exposed. Studies also frequently fail to control for the presence of other variables that might produce negative outcomes (such as concurrent victimization, poverty, exposure to other types of violence, or the presence of substance abuse or mental illness, for example), making it difficult or impossible to separate the effects of DV exposure from the effects of other risk factors (Carlson, 2000; Edleson et al., 2007; Hazen et al., 2006; Herrenkohl et al., 2008; Kitzmann et al., 2003; Wolfe et al, 2003). Examining this problem, Kitzmann et al. (2003) found that studies that did control for multiple stressors reported smaller effect sizes than studies that did not control for other risk factors, lending support to the conclusion that some poor outcomes may be caused by factors other than DV exposure itself.

There are also problems with selection bias resulting from sampling strategies in existing research. A substantial number of the available studies on child DV exposure only include child witnesses who were sampled from domestic violence shelters, raising concerns about the representativeness of the samples, as it is likely that children in shelters have been exposed to more severe and/or chronic violence than other child witnesses and therefore may have worse outcomes (Carlson, 2000; Edleson, 1999; Fantuzzo & Mohr, 1999; Hamby et al., 2010; Hazen et al., 2004; Wolfe et al., 2003). Small sample sizes and single data sources (usually reports of the mother) are other methodological limitations that are widely seen across the literature (Carlson, 2000; Edleson, 1999; Hamby et al., 2010; Wolfe et al., 2003).

Finally, a fundamental methodological problem in the research literature is the lack of common definitional standards for many of the central constructs related to exposure (Bragg, 2003; Carlson, 2000; Edleson, 1999; Edleson et al., 2007; Fantuzzo & Mohr, 1999; Kitzmann et al., 2003; Wolfe et al., 2003). The construct of *exposure* itself is subject to a wide variety of interpretations and operationalizations across studies. Similarly, there is no common definitional standard for what constitutes *domestic violence.* Some studies include verbal abuse, threats, or intimidation as domestic violence, while others limit the operationalization of domestic violence to incidents in which there is physical violence or physical injury (Carlson, 2000; Edleson, 1999; Edleson et al., 2007; Fantuzzo & Mohr, 1999; Wolfe et al., 2003). This inconsistency has consequences for the ability to generalize findings across studies. Conclusive statements about the effects of *exposure* to *domestic violence* are questionable when there are not shared standards for what these constructs mean.

These methodological issues in the research base are widely noted by the authors who have published systematic reviews, meta-analyses, and summaries of the literature. While reviewers conclude that there are aggregate-level differences observed between outcomes of children who have witnessed DV and those who have not, these conclusions are tempered by caveats about the strength with which the association between exposure and harm can be asserted. Kitzmann et al. (2003) state that while there is evidence of poorer psychosocial outcomes for exposed children compared to unexposed children, the "gaps and inadequacies in this body of research make it difficult to draw definitive conclusions from these results" (p. 347). Edleson (1999) cautions against drawing oversimplified conclusions, stating that while there is evidence of worse outcomes for exposed children, "The studies produced to date also, however, display some significant weaknesses and gaps that make strong conclusions concerning the effects of witnessing domestic violence premature" (p. 897). Fantuzzo and Mohr (1999) likewise conclude that there appear to be poorer outcomes in children exposed to domestic violence, but they qualify this conclusion by stating, "The research does not, as yet, reveal reliable information about the impact of particular types or frequencies of domestic violence on children, or how children with specific characteristics are affected across time" (p. 27). Wolfe et al. (2003) echo this theme, stating, "In summary, there is a wide degree of method variance in the research conducted on children exposed to domestic violence. These differences make it difficult to compare across studies due to different definitions, samples, and methodology, and to draw firm conclusions" (p. 173). Finally, Edleson and colleagues (2007) add that "Current notions of child exposure to domestic violence tend to assume a universal experience that anecdotal evidence and a review of the literature refute" (p. 969). Looking at these caveats regarding the strength and certainty of the knowledge base is crucial for weighing the evidence of harm against the implications of child welfare intervention.

These gaps in the literature raise many questions. To what extent does the current knowledge base warrant child welfare intervention to protect children who witness domestic violence? Does what we know about DV exposure justify policies that define domestic violence as child maltreatment and authorize child welfare intervention in these cases?   Should child welfare agencies intervene to protect child witnesses of domestic violence from potential harm, and if so, how should agencies determine which cases warrant intervention?

Answering these questions requires some understanding of how child maltreatment definitions are determined by child welfare systems. Hutchison (1990) offers an in-depth examination of the difficulties associated with defining what constitutes abuse and neglect of children. In analyzing factors that may be used to define maltreatment, she identifies two competing categories of factors on which definitions may be based: caregiver behavior and harm-to-child. Definitions that use a caregiver behavior standard emphasize potentially dangerous *actions* by caregivers, regardless of whether the actions result in known harm to children. The benefit to using caregiver behavior as a definitional standard is that it incorporates circumstances that *could be* very dangerous to children even if no injury is actually incurred. However, this standard is also associated with some difficulties, including the issue of determining *who* gets to decide which behaviors are considered

maltreatment, whether the intent and motivation of caregiver behavior should matter, and how to determine whether maltreatment occurred in the absence of witnesses. In contrast, using a harm standard to define maltreatment means that observed injury to a child, whether physical or emotional, is the primary element in determining what is considered abuse or neglect. While this standard makes explicit which children have been maltreated based on actual injury rather than subjective judgment of caregiver actions, it is also associated with some difficulties. Notably, it excludes potentially harmful (or even potentially lethal) actions that do not cause actual harm, even if only by luck or chance. In addition, a harm standard raises questions about what the threshold for seriousness should be in order label a given situation as maltreatment, as harm to a child can range "from hurt feelings or minor pain to death" (p. 71).

Defining child exposure to DV as maltreatment appears to be based on a caregiver behavior standard rather than a harm standard, as child welfare policies that treat all DV as a *per se* form of child maltreatment fail to recognize that not all children who witness violence will exhibit negative outcomes (Edleson, 2004; Shlonsky & Friend, 2007). Shlonsky and Friend (2007) note that risk assessments performed by caseworkers in CPS cases generally do not ask whether a child has been harmed, but only whether DV is present. Because there is so much variance in the outcomes of children who witness DV, with many exhibiting no discernible differences compared to unexposed children, defining DV as child maltreatment may result in intervention with children who may have experienced little or no harm as a result of their exposure. Even where it is determined that children who have witnessed DV are experiencing poor outcomes, there remains the problem of attributing causality to the exposure as the source of observed problems, especially where there are other risk factors present that are known to correlate with poor child outcomes.

Another conceptual difficulty of equating DV exposure with maltreatment is the fact that, consistent with a caregiver behavior definitional standard, not all circumstances that harm children are considered maltreatment. Even looking only at violence, it is apparent that DV is not the only type of violent exposure that may influence child well-being. Children may witness other types of violence, such as neighborhood violence and media violence, both of which are shown to have similar detrimental associations with children's behavior and development, yet these circumstances are not commonly defined as abuse or neglect, and the child welfare system does not consider parents who live in violent neighborhoods to be perpetrators of maltreatment, possibly because these are circumstances that are seen as beyond the control of caregivers (Edleson, 1999; Magen, 1999; Margolin & Gordis, 2000).

Other circumstances within the home may also be connected with negative outcomes but not considered maltreatment. Like many other researchers, Jouriles and colleagues (1996) found that children who were exposed to domestic violence in their homes exhibited internalizing and externalizing problems that were worse than those observed in unexposed children. However, they also found that children who were exposed to only "spousal aggression" in their households (including insults, threats, or throwing objects, but not physical violence) exhibited behavioral outcomes similar to the those seen

in children who were exposed to *physical* violence. This raises questions about the potential implications of using the correlation of poor outcomes and DV exposure as a basis for child welfare intervention.

At a system level, defining DV as maltreatment may not be practically sustainable because it creates a new category of "victims" to be processed through the child welfare and court systems. At the extreme, if *any* DV exposure warrants child protective intervention, there are massive implications for the number of families who could be affected. Given that current estimates suggest that some 30 percent of children will witness a domestic violence incident in their home at some point in their childhood (Carlson, 2000; Finkelhor et al., 2009; Straus, 1992), this presents major potential repercussions for the child welfare system.

Edleson, Gassman-Pines, and Hill (2006) have described the systemic consequences of defining exposure as maltreatment in Minnesota. In 1999, Minnesota's state legislative body changed their child protection statues to legally define domestic violence exposure as a form of child neglect, in recognition of the increasing knowledge of potential harm to children, and in an attempt to ensure that the state could intervene to provide services to children witnessed DV. This change resulted in a massive increase in the number of child maltreatment referrals from mandated reporters, who were required to report any situations meeting statutory guidelines, including DV exposure even where there was no known harm as a result. Child welfare offices were overwhelmed by the spike in CPS referrals (projected to potentially increase workloads by over 50 percent in some counties), especially considering that the change in statute did not allocate any new funding or resources to deal with the new category of children subject to CPS reporting and intervention. The statute was repealed in 2000 at the urging of both child welfare officials and women's advocacy groups, who objected to the implications for women domestic violence victims under the new policy. This example provides a concrete illustration of the consequences that could arise from widely defining DV exposure as maltreatment.

Aside from possible systemic strain that might arise from treating exposure as maltreatment, there are also potential legal challenges to such policies. In New York in the 1990s, child welfare intervention in DV exposure cases resulted in the removal of some children who witnessed DV, even in the absence of observed harm. In one such case (Nicholson vs. Williams), a lawsuit was brought against the state challenging the legitimacy of removing children on the basis of DV exposure without demonstrating that the children had been harmed, and in 2004, "the New York State Court of Appeals unanimously held that a mother's inability to protect a child from witnessing abuse does not constitute neglect, and that not every child exposed to domestic violence is at risk of impairment" (Moles, 2008). This precedent raises questions about the legality of similar policies in other jurisdictions where challenges may not yet have been tested in court.

1.4. Child Welfare System Responses to Domestic Violence

Given the gaps in the field's knowledge about the effects of DV exposure, in addition to the conceptual and practical difficulties associated with defining DV as maltreatment,

questions remain about what role the child welfare system should play in the lives of children and families affected by DV. Despite these questions, CPS agencies are already working routinely with cases involving DV, and relatively little is known about how these cases are handled in the child welfare system.

There is currently a small body of research that examines how child welfare systems, both in the U.S. and Canada, respond to cases that involve DV. Some of the extant studies look broadly at cases that are DV-involved, not just those that are reported to CPS for DV, while others distinguish cases by whether DV was reported as a maltreatment type. This detail – whether DV is alleged as a type of maltreatment – is key in distinguishing cases of co-occurring DV and maltreatment from cases in which DV is being handled *as* maltreatment. It is this detail that will comprise the core objective of this study, as described in the subsequent section.

Research on child welfare system responses to DV to date has produced mixed findings on various outcomes of interest, many of which are relevant to the current study, including risk ratings, substatiation rates, likelihood of receiving services, and likelihood of out-of-home placement. Findings from the small number of extant prior studies are reviewed below, first individually by study (so that design and limitations can be described), and then synthesized by outcome type to provide a summary overview.

Studies Comparing Case Outcomes by Presence of DV.

Beeman, Hagemeister, and Edleson (2001) found that families with DV and other maltreatment ("dual-violence" families) were assessed as higher risk and had more case openings than those in which there was only maltreatment (with no DV). However, this study did not distinguish whether DV was a maltreatment allegation among dual-violence families, and it did not distinguish cases in which DV occurred in the absence of other maltreatment.

English, Edleson, and Herrick (2005) looked at the differential outcomes of DV-referred cases compared to cases with no DV at intake in a CPS sample in Washington state. The findings indicate that of DV-referred cases assigned for a full investigation due to a moderate or high risk rating at intake, more than two thirds (68%) were reclassified as having low or no risk after investigation. However, DV-referred cases that were assessed as moderate or high risk and opened for services were much more likely to end in out-of-home placement (81%) than cases with equivalent risk ratings but without DV in the intake referral (62%). These complex findings suggest that the majority of cases with DV present at intake are deemed to be low/no risk after investigation and do not receive any further intervention, but among the minority of higher-risk cases that are opened for services, the presence of DV at intake is associated with a greatly increased likelihood of out-of-home placement. In this study, all cases that had DV present at intake were assessed together, without distinguishing cases that were related solely or primarily to DV from those in which DV was alleged concurrently with other intake allegations.

In a key study on domestic violence (DV) in child welfare caseloads using national survey data (NSCAW I), Kohl et al. (2005) compared case characteristics and outcomes among three comparison groups: those with only a history of DV (but not active DV), those with active DV, and those with no DV indicated. This study found that cases with active DV were more much more likely to result in substantiation but no more likely to result in out-of-home placement than cases with no DV. It is unknown whether the DV-involved cases in the study were reported for DV as a maltreatment allegation, or whether DV was identified upon investigation.

Black and colleagues (2008) used findings from a Canadian survey of child welfare caseworkers to compare cases referred to CPS for child exposure to domestic violence (EDV) to cases referred for other forms of maltreatment. This study found that the key factor in whether EDV cases resulted in an advanced intervention level (such as opening for services or out-of-home placement) was whether substantiated EDV occurred alone or in tandem with other substantiated forms of maltreatment. Cases referred to child welfare for EDV only were assessed as less severe than other types of cases (either EDV plus other maltreatment, or only other maltreatment), as evidenced by shorter durations in the system, lower levels of assessed emotional harm, fewer case openings, fewer out-of-home placements, and fewer court petitions. Though this study did examine cases by whether DV was present as maltreatment allegation, the sample was comprised of only substantiated cases, excluding all cases that were investigated and closed without a validated finding.

Alaggia and colleagues (2013) examined differences in case outcomes and service trends between DV-referred cases and cases referred for other maltreatment types in a Canadian CPS jurisdiction. They found that DV-referred cases were assessed to have higher ratings of risk and harm, had greater likelihood of substantiation, and were more likely to be opened for ongoing services for longer periods of time compared to cases referred for other allegations. In this study, DV-referred cases were not distinguished by whether DV was the only allegation or was concurrent with other maltreatment types.

Ogbonnaya and Guo (2013) used an advanced statistical method called propensity score analysis with NSCAW I data to examine the whether children whose caregivers reported DV victimization were more likely to enter out-of-home placement more quickly than children in cases with no reported DV. They found that children in DV-involved cases were "at greater risk of entering out-of-home placement at faster rates" than children in no-DV cases (p. 208). However, these results should be interpreted with considerable caution, as the authors were not able to apply the NSCAW survey weights with this method of data analysis, and therefore the results are not generalizable outside of the sample of cases (N=1,965) used for the study.

Summary of Findings by Outcome Type.

Risk assessment. Research on relative risk levels among CPS cases has produced a general consensus that DV-involved cases are assessed as having higher levels of risk than

cases without DV-involvement (Alaggia et al., 2013; Beeman, Hagemeister, & Edleson, 2001; English et al., 2005; Kohl et al., 2005).

Substantiation. Findings on likelihood of substantion are mixed, with one study reporting no differences in substantation between no-DV and DV-involved cases (Beeman, Hagemeister, & Edleson, 2001) and one study reporting much higher likelihood of substantiation for DV-involved cases compared to no-DV cases (Kohl et al., 2005). No studies have found lower substantiation rates for cases involving DV compared to other cases.

Service provision. Examining service receipt across studies, prior findings suggest that case openings for ongoing child welfare services may be more likely for DV-referred cases than no-DV cases (Alaggia et al., 2013), particularly when coupled with moderate-high levels of assessed risk (English et al., 2005), or when DV is alleged concurrently with other allegations rather than as the only allegation (Black et al., 2008).

Out-of-home placement. Research examining comparative risk of out-of-home placement has produced ambiguous findings. Some studies have found that there are no differences in likelihood of out-of-home placement between DV-involved and no-DV cases (Beeman, Hagemeister, & Edleson, 2001; Kohl et al., 2005; Zuravin & DePanfilis, 2007). Among studies finding that DV cases are *more* likely to result in out-of-home placement, only one found a meaningfully large difference, and it was only present among cases rated as moderate or high risk (English et al., 2005); other studies finding increased risk of placement found only very modest (though statistically significant) differences between groups (Horwitz et al., 2011; Ogbonnaya & Guo, 2013). Only one Canadian study has found that DV-referred cases are less likely to result in out-of-home placement, with cases referred for DV-only substantially less likely to reach this outcome compared to cases referred with no DV or concurrent DV and other maltreatment (Black et al., 2008).

1.5. Current Study Objectives

Additional research describing the differential characteristics and outcomes of cases reported to CPS for DV allegations compared to cases referred for other allegations is a crucial next step in developing appropriate CPS response strategies, and is the objective of the current study. More specifically, further research on DV as a *maltreatment allegation* (as opposed to just a co-occuring problem) is important for two reasons. First, analyzing cases by presence of DV at case intake distinguishes cases in which DV is being handled as alleged abuse by the child welfare system, providing a clearer picture of the modern expansion of child welfare focus to encompass DV exposure as a form of maltreatment. Second, more than half of U.S. states are now using or developing multi-track CPS approaches, in which the manner of intervention used with a given family depends on the type and severity of maltreatment that is reported (Hughes et al., 2013). With the proliferation of these multi-pronged responses, knowledge about differential features of cases based on intake allegations becomes critical, as CPS agencies must rely on the

information reported at the time of intake to make decisions about case assignment to intervention tracks.

Research to date has not fully determined how or whether DV-referred cases differ from traditional cases of maltreatment. If appropriate CPS policies and interventions are to be developed and implemented for these cases, clearer information is needed to explicate how these cases are currently being processed in the child welfare system, and what their unique features are compared to cases involving other forms of abuse and neglect. Such research may advance dialogue on the role of child welfare agencies in families experiencing DV and inform appropriate strategies of intervention for DV-referred CPS cases. Toward this objective, the current study uses the baseline wave of the second National Survey of Child and Adolescent Well-Being (NSCAW II) to examine cases referred to CPS agencies for DV. Through a secondary analysis of these national survey data, this study aims to answer the following research questions.

> **Question 1**. *What are the differential demographics, risk factors, and outcomes of CPS cases reported for DV, alone or with other allegations, compared to cases reported for maltreatment types other than DV?*
>
> **Question 2**: *Is the presence of DV as a maltreatment allegation an independent predictor of key child welfare outcomes after controlling for demographic and risk variables?*

This analysis addresses these questions by comparing cases in which DV was the sole maltreatment allegation reported at case intake to those in which DV was alleged concurrently with other types of maltreatment at intake, *and* to those in which only other maltreatment (no DV) was alleged at intake.

The current study fills a gap in the existing research literature based on three characteristics: 1) it examines DV as a maltreatment allegation in CPS cases rather than just as a co-occuring risk factor, 2) it distinguishes cases in which DV is the *only* maltreatment allegation from those in which DV is alleged concurrently with other types of maltreatment, and 3) it includes both substantiated and unsubstantiated cases in the analysis. There are no prior studies with all of these features.

This dissertation is structured to provide a thorough answer to the research questions of interest. This chapter presented an introductory overview of the intersection of child maltreatment and DV in the child welfare system and a review of the associated literature. Chapter 2 briefly reviews and discusses relevant theoretical underpinnings of the current study. Chapter 3 describes the data source and study methodology in detail. Chapters 3 and 4 offer a full report of the study findings followed by a discussion of the results, their limitations, and their potential implications for child welfare policy, practice, and research.

Chapter 2: Theoretical Background

The current study is primarily descriptive in nature, and therefore the role of theory is limited, as descriptive studies are not designed or conducted for the purpose of developing or testing theory (Thyer, 2001). Nonetheless, this chapter offers two brief theoretical discussions that underpin the research questions of interest. The first section of this chapter examines a conceptual framework that explains the expansion and contraction of child welfare intervention over time. This framework broadly provides a perspective for understanding shifts in the scope of child welfare intervention to include new forms of maltreatment, such as domestic violence. The subsequent sections of this chapter briefly review theories on the causes of domestic violence and explicate the theoretical assumptions of this study. Because interventions are often driven by theoretical views on the causes of social problems, examining theories of domestic violence provides a larger context for considering appropriate interventions for child exposure to domestic violence.

2.1 Child Welfare Intervention: History and Conceptual Framework

The expansion of child welfare intervention to include DV exposure as a form of child maltreatment reflects the fact that definitions of abuse and neglect are not static, but rather they are social constructions that change over time. This notion is effectively summarized by prominent violence researchers Gelles and Straus (1988), who state:

> Twenty years of discussion, debate, and action have led us to conclude that there will never be an accepted or acceptable definition of abuse, because abuse is not a scientific or clinical term. Rather it is a political concept. Abuse is essentially any act that is considered deviant or harmful by a group large enough or with sufficient political power to enforce the definition (p. 57).

The changing nature of what circumstances are considered maltreatment is reflected in the historical development of the child protection system, which has expanded gradually over time to include "new" forms of abuse and neglect as public awareness has brought them to light. Child abuse as a social problem was brought to wide public attention in 1962 upon the publication of a medical journal article (*The Battered-Child Syndrome*) which described children who were brought to hospitals with multiple fractures that were inconsistent with the explanations provided by parents (Gelles, 1985; Kempe et al., 1962; Myers, 2006). Prior to that time, public resources to protect children were an "incomplete patchwork" of local and voluntary agencies, and the problem was not widely considered a matter warranting significant public attention (Myers, 2006). The increased awareness resulting from the publication of *The Battered-Child Syndrome* led to the rapid development and expansion of public service systems to address the problem of child abuse. By the 1970s, child protection agencies in all jurisdictions were federally mandated, and all states had statutory requirements regarding the reporting of child abuse to public authorities (Gelles, 1985). Because the problem of child maltreatment was brought to light by the medical profession through the identification of physical trauma to children, the early focus of the child welfare system was physical abuse. Over time, definitions of maltreatment

expanded as further research and advocacy brought to light other forms of maltreatment besides physical abuse. Sexual abuse was gradually included under the auspices of child protection agencies, and child neglect, now known to be the most prevalent form of child maltreatment (USDHHS, 2011), was recognized as a significant social problem later in the 20th century, well after physical and sexual abuse were accepted as such (Myers, 2006). As this history illustrates, the circumstances that are defined as child maltreatment by social welfare institutions, policymakers, and the general public are subject to alteration and expansion as new knowledge alters public perception.

Testa (2008) has developed an analytical framework for examining shifts in the reach of the child protection system over time. This framework provides a conceptual structure for looking at the expansion of child welfare interventions to encompass DV exposure. Testa argues that the scope of public interest in the welfare of children ranges between "two opposing conceptions of the proper relationship between the child and the state" (p. 109). The *narrow* scope of interest reflects the belief that the public (through government agencies) should only intervene to protect children when there is threat of immediate bodily harm to a child. In contrast, the *diffuse* scope of interest reflects the belief that public intervention should occur whenever a child's well-being can be enhanced, not only when there is an immediate safety threat.

Testa asserts that the scope of public interest in the U.S. child welfare system has been moving toward the diffuse end of this spectrum since the mid 20th century. He argues that evidence for this expansion in scope is seen in the gradual widening of the criteria for public protection from solely physical abuse to less immediately threatening situations such as emotional abuse, prenatal drug exposure, and neglect. Using this framework, DV exposure can be viewed in a historical context as a newer circumstance that is being incorporated into the widening definition of child maltreatment. Under a diffuse scope of public interest, the evidence of potential harm to children from DV exposure can be viewed as a sufficient threat to child well-being to warrant government intervention in families where DV is alleged to have occurred.

The current study is an examination of the intersection between child exposure to DV and child welfare intervention. While Testa's theory provides an overarching conceptual structure for understanding changes in the scope of child welfare involvement over time, there are also theories that explicate the causes of domestic violence as a social problem. Examining some of these theories establishes a broader context for evaluating appropriate child welfare interventions to address child exposure to domestic violence.

2.2 Causal Theories of Domestic Violence

Theories purporting to explain the cause (or causes) of DV are abundant in the literature on violence (e.g., Gelles, 1985). In fact, there is considerable tension and robust debate in the academic discourse regarding the etiology of DV, which can be viewed through multiple competing theoretical lenses that have very different implications for considering appropriate interventions to address the problem (Loseke, Gelles, &

Cavanaugh, 2005). Many theories of DV come from a sociological perspective, which views DV primarily as a function of social structures rather than individual pathology. Among sociological explanations, there is a major theoretical divide centered on the role of gender in DV perpetration and victimization. Non-gendered sociological theories (referred to collectively as family violence perspectives) view DV as a potential outcome of relational conflict, which is viewed as inevitable in human interaction. Feminist perspectives, on the other hand, view DV as a manifestation of the patriarchal and socially sanctioned domination of women by men. In contrast to sociological theories of violence, psychological explanatory models characterize DV as a problem stemming primarily from individual-level characteristics, such as mental illness, personality disorders, or deficient anger management. Each of these major categories of theories is summarized below.

   2.2.1. Family violence theories. Family violence perspectives view conflict between family members (and indeed all humans) as universal and inevitable. Through this lens, violence between any family members (including violence between intimate partners) is seen as a method that some individuals use in an attempt to resolve interpersonal conflicts (Allen & Straus, 1979; Gelles and Straus, 1979; Gelles, 1983; Gelles, 1993; Gelles and Maynard, 1987; Giles-Sims, 1983; and Straus, 1973). Family violence perspectives assert that most family violence is not the result of individual deviance or pathology, but is rather a "normal part of family life in most societies and in America" (Gelles and Straus, 1979, p. 549). In this perspective, DV (i.e., violence between intimate partners) is not qualitatively different than other types of violence within the family, such as elder abuse, or abuse of children; all are expressions of interpersonal conflict in the family. Thus, the key to understanding DV is identifying what social factors cause family members to use violence as a means of resolving conflict. Multiple explanatory theories under the larger domain of family violence perspectives attempt to explicate the process by which violence is used as a means for conflict resolution. Ecological theory, exchange theory, resource theory, and sociocultural theory are a few of the commonly employed models that seek to explain DV within a family violence framework.

   Ecological theory. Ecological models view the interaction of the individual with his or her environment as essential to understanding the use of violent behavior in intimate relationships. According to ecological theory, "more precise variables (e.g., individual development) are viewed as 'nested in' (operating within) broader variables (e.g., cultural norms, subcultures)" (Dutton, 2006, p. 19). In other words, individual behavior is embedded in the context of multiple levels of an individual's social system, including the microsystem (family unit), exosystem (community groups and institutions), and macrosystem (cultural values and beliefs) (Dutton, 2006). Factors from all of these systemic levels may interact with a person's individual characteristics to increase or decrease the likelihood of violent behavior.

   Exchange/social control theory. Exchange theory posits that family violence occurs when the rewards of violent behavior outweigh the risks or costs (Gelles, 1983; Gelles and Straus, 1988; Nye, 1979). For some, violence may be perceived as personally or socially rewarding, such as when it results in gaining power and control over another person (Gelles & Cavanaugh, 2005b). When social costs of violence are lower than the perceived

rewards, violent behavior is maintained. Gelles (1983) ties exchange theory to the construct of social control, stating, "Family violence occurs in the absence of social controls which would bond people to the social order and negatively sanction family members for acts of violence." (p. 157). Three points of his combined exchange/social control theory attempt to explain and predict the occurrence of violence in the family: a) family violence will occur when rewards outweigh costs; b) lack of effective social control in the family decreases costs and therefore makes violence more likely; and c) family-level dynamics and social structures, including inequality (e.g., in status, economic resources, or physical strength), privacy norms of the family, and cultural perceptions of masculinity may increase the rewards of using violence (Gelles, 1983).

Resource theory. Goode (1971) and Allen and Straus (1979) propose the use of resource theory to understand family violence. Resource theory posits that individuals use the resources that are available to them (e.g., income, education, social skills, status, prestige) to achieve their goals. Violence is one among many resources that can be used to attain individual goals. The more resources a person has available to achieve his or her interests, the less likely that person will be to employ physical force as a method of meeting his or her goals. In other words, the "resource" of physical violence will only be used when other resources are depleted or otherwise unavailable (Goode, 1971). Allen and Straus (1979) apply this theory specifically to DV, noting that "marital violence" occurs more frequently among groups with lower socioeconomic status, which is consistent with what the theory predicts. Resource theory suggests that imbalances in the prevalence of DV among different socioeconomic groups occur because those with lower income (and therefore lower social status and prestige) have fewer legitimate resources to utilize in attaining power within relationships and are therefore more likely to resort to violence.

Sociocultural theory. A sociocultural perspective suggests that certain cultures in society (e.g., marginalized groups with low socioeconomic status) have higher rates of DV because their group norms and values promote the use of violence within family systems (Gelles & Cavanaugh, 2005b). According to this theory, individuals within a violent sociocultural context learn the values and norms of violence through socialization and social control in their environment. In other words, violence is socially learned and passed on by group members, thus sustaining the cultural acceptability of violence (Wolfgang & Ferracuti, 1967).

2.2.2. Feminist theory. In contrast to theories falling within a family violence framework, feminist perspectives are united by a common core notion: DV is a social problem that cannot be adequately understood through any lens that does not include gender as the key causal variable (Anderson, 1997; DeKeseredy & Dragiewicz, 2007; Dobash & Dobash, 1979; Kurz, 1989; Yllö, 1993). The fundamental proposition of feminist theories is that DV is an expression of male domination over women. As Dobash and Dobash concisely summarize in the preface of their seminal 1979 work advancing the feminist perspective, "The use of physical violence against women in their position as wives is not the only means by which they are controlled and oppressed, but it is one of the most brutal and explicit expressions of patriarchal domination" (p. ix).

Dobash and Dobash (1979) assert that the patriarchal domination of women through "wife abuse" is held over from the long cultural history of legally sanctioned male subordination, abuse, and outright ownership of women. They state that despite the fact that it is no longer legal for men to physically beat their wives, this history of inequality is still at work in the fundamental fabric of intimate heterosexual relationships through gender roles and norms and the social sanctioning of male domination.

Stark (2007) offers a newer model of feminist theory by positing that *coercive control*, rather than just physical violence, is a central component of the overall pattern of abuse that keeps women subjugated under the structural domination of men. Stark argues that beyond physical assault, which has become less socially and legally acceptable due to the successes of the domestic violence movement of the modern era, abusive men use the tactics of intimidation, isolation, and control to subordinate women in intimate relationships. Stark states that "the primary harm abusive men inflict is political, not physical, and reflects the deprivation of rights and resources that are critical to personhood and citizenship" (p. 5). He proposes that laws and policies on DV should criminalize coercive control to prioritize the liberty of women from control instead of merely their safety from physical violence.

The feminist position contrasts starkly with the family violence perspective; while there are numerous types of violence within families, DV is seen as a qualitatively different phenomenon in that it is based on patriarchal domination, not just conflict. Yllö (1993) specifically contrasts the use of feminist theory with family violence perspectives, stating that feminism is "a necessary lens without which any other analytic perspective is flawed" (pp. 48). She maintains that the theoretical focus on family conflict in understanding intimate partner violence is misguided because the basis of intimate partner violence is gender-based domination, not conflicting personal interests. Kurz (1989) also provides a comparative analysis of family violence and feminist theories, asserting that conceptually, DV has more in common with rape and sexual harassment (i.e., other forms of gender-based oppression) than with other types of family violence, such as elder abuse or sibling violence.

Feminist theory currently represents the "dominant ideological perspective" (Gelles & Cavanaugh, 2005b), on DV, forming the basis of both state and federal policies and accepted standards of care for prevention and treatment interventions (Babcock, Green, & Robie, 2004; Cavanaugh & Gelles, 2005; Edleson, 2012; Gelles & Cavanaugh, 2005b). Group counseling interventions based on feminist theory, which train men to recognize and correct sexist attitudes believed to cause violent behavior, are the current standard for DV treatment (Edleson, 2012), and in fact are the *legally-mandated* methods of intervention in the vast majority of states (Babcock, Green, & Robie, 2004). Despite the overwhelming endorsement of feminist-based DV treatment programs in government policies, the best available empirical research shows that these approaches range from modest effectiveness at best (e.g., comparing men who start programs but do not finish to those who finish, using official police records) to no effectiveness (e.g., using victim report rather than police records to measure outcomes) in reducing the recurrence of DV among men mandated to

such interventions (Babcock, Green, & Robie, 2004; Feder & Wilson, 2005). However, Edleson's (2012) review of literature on group batterer intervention program concludes that despite challenges, there are net benefits resulting from these interventions, especially when utilized in tandem with macro-level community interventions.

2.2.3. Psychological theories. In contrast to the sociological explanatory models discussed above, psychological theories of DV assert that psychosocial deficits, mental disorders, and other individual-level pathologies are the primary drivers of violence, including DV between intimate partners (e.g., Dutton & Corvo, 2006). Those who promote the use of psychological perspectives on DV are critical of perceived flaws in sociological explanations. For example, attributing individual behavior to macro-level social characteristics has been called an "ecological fallacy" (Dutton, 1994; Gelles, 1985). In addition, feminist perspectives are criticized for being ideological rather than scientific, for identifying a single factor as the cause of intimate violence, for failing to explain why only *some* men in patriarchal social structures are violent in their relationships, and for not addressing causes of DV in gay and lesbian relationships (Cavanaugh & Gelles, 2005; Dutton & Bodnarchuk, 2005; Gelles, 1985).

A multitude of individual-level traits have been theorized and researched as major causal contributors to DV. Dutton (2002) suggests that insecure attachment, trauma history, experiences of acute shame and rage, and social learning of aggression may be part of a constellation of personality-related factors likely to predict cyclical intimate abuse among men. Many of these factors overlap with those identified by Schumacher and colleagues (2001), whose comprehensive literature review identified many individual-level risk factors with moderate to strong associations with male DV perpetration, including childhood trauma, insecure attachment, elevated levels of anger and hostility, low self-esteem, jealousy, and clinical psychopathologies such as personality disorders, depression, anxiety, and bipolar disorder. The review by Schumacher et al. (2001) also found a consistent positive correlation between drug and alcohol abuse and likelihood of DV perpetration among men, though substance abuse as a *cause* of DV has been strongly disputed (e.g., Gelles & Cavanaugh, 2005a).

Of the many ontogenic factors associated with DV perpetration, personality disorders (and especially borderline personality disorder) have been particularly implicated in the use of violence against an intimate partner (Cavanaugh, Solomon & Gelles, 2011; Dutton, 2002; Dutton & Bodnarchuk, 2005; Dutton & Starzomski, 1993; Holtzworth-Munroe & Stuart, 1994; Schumacher et al., 2001). Men with indicators of borderline personality disorder exhibit psychological traits that include extreme jealousy, intolerance of separation from intimate partners, acute fear of abandonment, externalized blame, intense episodes of rage, and pervasive feelings of emptiness, worthlessness, and depression (Cavanaugh, Solomon, & Gelles, 2011; Dutton & Bodnarchuck, 2005). In many individuals, these traits, along with an inability to regulate intense emotions, are believed to lead to violent episodes within intimate relationships, and may constitute an "abusive profile" with predictive capacity for identifying many DV perpetrators, especially those who are repeat abusers (Dutton & Starzomski, 1993).

2.2.4. Pluralist perspectives. In addition to the theories discussed above that reflect distinct disciplinary lenses through which DV can be viewed, there are theories that attempt to bridge these rigid divides, recognizing that DV is a complex phenomenon for which there may be many causes. First, it is relevant to note that even within the discipline-specific viewpoints of the theoretical literature, there are commonalities across frameworks. While generally advocating a feminist perspective, Kurz (1989) points out that there are similarities between feminist and family violence perspectives because many family violence theories do acknowledge that sexist social norms exist and may contribute to DV. In other words, both family violence and feminist perspectives may view sexism as a causal factor for DV, but feminist theories place sexism at the center of the analysis, while family violence theories recognize it as only one structural factor among many. In addition, Dutton (1994), a strong proponent of psychological theories of DV, acknowledges that cultural gender norms can interact with psychological traits to produce violence, stating, "[Patriarchy] may provide the values and attitudes that personality-disordered men can exploit to justify their abuse of women" (p. 176).

Cavanaugh and Gelles (2005) aptly note that there is substantial heterogeneity among perpetrators of DV, and this fact is reflected in emerging explanatory models that attempt to subclassify types of DV (or types of DV perpetrators) based on their unique divergent characteristics. Though multiple researchers have offered typologies of batterers (see Cavanaugh & Gelles, 2005, for a comprehensive summary and synthesis of these typologies), the theoretical work of Johnson (1995, 2008) provides a well-developed classification of DV types that integrates many of the theories discussed above toward a thorough understanding of this multifaceted phenomenon. Johnson (1995, 2008) proposes that there are distinct types of DV that are primarily distinguished by the role of power and control in the abuse dynamic, and the incompatibility of existing theories of DV arises from the fact that they are actually explaining different underlying phenomena. Johnson's (2008) theory identifies two primary forms of DV: *intimate terrorism* and *situational couple violence*. Intimate terrorism is defined as "a form of terroristic control... that involves the systematic use of not only violence, but economic subordination, threats, isolation, and other control tactics" (Johnson, 1995, p. 284). This type of violence reflects the stereotypical scenario that most people associate with terms like domestic violence and wife abuse, yet it is believed to comprise a minority of all instances of DV. Because intimate terrorism is motivated by the desire to fully dominate and control an intimate partner, feminist theories and psychological theories may be more applicable to this type of violence. In contrast, situational couple violence is characterized by a dynamic "in which conflict occasionally gets 'out of hand,' leading usually to 'minor' forms of violence, and more rarely escalating into serious, sometimes even life-threatening, forms of violence" (Johnson, 1995, p. 284). Situational couple violence, which is believed to describe the majority of all occurrences of DV, is rooted in poor management of interpersonal conflict, not overarching domination and control of an intimate partner. As such, this form of DV may be appropriately examined through the lens of family violence perspectives. The key contribution that Johnson's theory makes to the study of DV is that it unifies the seemingly intractable contradictions in other theories by clarifying that different theories are likely

explaining different latent types of violence.

Though theories that propose DV typologies show promise in enhancing our understanding of the variance in domestic violence, it has yet to be determined whether differential treatments for batterers are warranted to address different DV types. White and Gondolf (2000) utilized a personality typing instrument (MCMI-III) to collect profiles for 100 men entering batterer intervention programs. They found six latent classes of batterers based on their levels of clinical personality dysfunctions, with the majority of men (56%) falling into a low dysfunction category. Despite finding distinctive types of batterers by personality, they also found that current psychological treatment recommendations still support cognitive-behavioral based group therapy (i.e., the currently utilized approach for batterer intervention) for all but the small minority of batterers with severe personality dysfunction. The conclusion they reach is that, though there may indeed be different types of batterers, when it comes to appropriate treatment recommendations, "one size appears to fit most" (p. 486). One caveat of these findings, however, is that the majority of men (86%) in the study sample were court-mandated to treatment, and therefore they may not be representative of batterers who do not come to the attention of the legal system. In addition, this study only addresses interventions for male DV perpetrators, not victims or child witnesses.

On balance, the study of DV typologies appears promising as a way to traverse the gaps of other explanatory models, but many questions remain about the nature of underlying DV types, how DV types may relate to victim outcomes, and how these typologies should drive interventions for families who experience DV. Substantial additional research is needed to refine our understanding of typological theories of DV.

2.3 Theoretical Assumptions of the Current Study

As the overview of competing DV theories demonstrates, there are substantial differences among theories regarding the causes of, and appropriate interventions for, domestic violence. The current study is not designed as a test for any theory, nor can it add empirical support to any given theory over another. However, the research questions and interpretation of findings are guided by some theoretical assumptions that can be made explicit.

This study assumes, based on empirical support from both child welfare and domestic violence literatures, that DV is a complex, dynamic phenomenon which may have *multiple causal pathways*, and which can be associated with *widely variant degrees of severity and harm.* Based on this assumption, it follows that there may be substantially differential risk to children based on the distinct features of the DV circumstances that they witness. In other words, DV is not a unitary or homogenous phenomenon, and interventions for DV, including those employed by the child welfare system, should have correspondingly tailored features that reject a "one size fits all" approach to addressing the problem. This study is also linked to the diffuse versus narrow conceptual child welfare framework in that it examines whether this modern expansion of child maltreatment

definitions has produced a unique subgroup of cases with features and outcomes that differ from narrower, more traditional classifications of maltreatment in the child welfare system.

The subsequent chapters of this dissertation describe in detail the methods used to answer the research questions of this study, the findings regarding differential characteristics and outcomes of cases referred to CPS for DV, and the potential implications for appropriate and effective CPS interventions that respond to the unique features of DV cases.

Chapter 3: Study Methods

3.1 Data Source

This study is a secondary analysis of the Second National Survey of Child and Adolescent Well-Being (NSCAW II), a federally mandated and funded longitudinal multi-informant survey designed to provide comprehensive information on a nationally-representative sample of children investigated by U.S. child welfare (CPS) agencies (Dolan et al., 2011). The NSCAW II includes 5,872 children (ages 0-17 at sampling) who were subjects of child welfare investigations or assessments (regardless of case outcomes) and whose cases were closed between February 2008 and April 2009. The subject children of NSCAW II represent the second NSCAW study cohort, sampled about 9 years after the initial cohort (NSCAW I). The NSCAW I, completed in five waves from 1999 to 2007, was the first study of children involved in the child welfare system that provided nationally-representative and longitudinal data, enrolling 5,501 children and using multiple informants (caseworkers, teachers, children, and caregivers) to gather comprehensive data on child welfare services, practices, and outcomes (Dowd et al., 2010). The second study cohort (NSCAW II) was launched for the purpose of obtaining a deeper understanding of child welfare cases in the evolving policy context of increased federal oversight of child welfare agency performance in the years since the first cohort was sampled (Dolan et al., 2011; Dowd et al., 2010). The research was planned and conducted by co-principal investigators Paul Biemer and Heather Ringeisen of Research Triangle International (RTI) in collaboration with the Office of Planning, Research, and Evaluation (OPRE) at the Administration for Children and Families (ACF) within the U.S. Department of Health and Human Services (Dowd et al., 2010).

Like the first cohort, the NSCAW II is a longitudinal study entailing five planned waves of data collection (Dowd et al., 2010), with two waves having been completed and made available for analysis as of the completion of the present study. The current study uses only the NSCAW II baseline wave of data, producing a cross-sectional rather than longitudinal analysis. Using only the baseline data ensures that the results are not confounded by unmeasured rater-effects that are introduced by using multiple waves of data in longitudinal research with different raters at different time points (Guo, 2013). In addition, because this study is concerned with "front end" child welfare decision points, the baseline wave of data represents the appropriate time frame for the outcomes of interest.

The target population for the NSCAW II is "all children in the U.S. who are subjects of child abuse or neglect investigations (or assessments) conducted by CPS and who live in states not requiring agency first contact of the sample members" (Dowd et al., 2010, chapter 2, pp. 1-2). Though the NSCAW II study documentation does not limit generalizabilty to the target population by any explicit time frame, the dynamic nature of the child welfare system, with frequently changing policies and procedures, suggests that the generalizability of study findings to the target population likely diminishes as time moves further from the data collection period. While the original goal of the survey was to be nationally representative of the target population of all U.S. children investigated or assessed by CPS agencies, at the time of NSCAW II sampling there were eight states with

statutes requiring CPS personnel (as opposed to research personnel) to make first contact with caregivers of children selected for the study. These states with "first contact laws" were therefore excluded from the sampling frame and the target population was modified to exclude states requiring CPS agency first contact with families (Dowd et al., 2010).

3.2 Sample Design

The NSCAW II used a two-stage stratified sampling design to select the 5,782 children included in the study. The sampling methods were designed for NSCAW I and continued for the second cohort of NSCAW II. The first stage stratified the U.S. geographically into nine strata: eight of which represented the states with the largest child welfare populations, and the ninth which was comprised of all of the remaining eligible states (i.e., those not covered by first contact laws). Within these nine strata, the NSCAW research team identified Primary Sampling Units (PSUs), which are counties or other geographic areas served by a single local CPS agency. For NSCAW I, there were 92 sample PSUs chosen using a probability-proportionate-to-size method, meaning that PSUs with larger caseloads had a higher likelihood of selection (Dowd et al., 2010). Subject children were then randomly selected in equal numbers from these 92 PSUs. For the NSCAW II, the same 92 PSUs were approached for continued inclusion, however they were not all retained for the second cohort, primarily due to enactment of first contact laws (Dowd et al., 2010). Though some new PSUs were selected for replacement of the refusals, only 81 total PSUs (comprising 83 counties) comprised the NSCAW II sampling frame. Only 71 of the 82 are shared with NSCAW I; the others were selected as replacements from PSUs not included in NSCAW I. The 5,872 NSCAW II subject children were then randomly selected from investigations that had closed during the referent period (February 2008 to April 2009) in the 81 selected PSUs (Dowd el al., 2010). As a note regarding sample size, there were originally 5,783 children sampled for the NSCAW II study, but one subject was determined ineligible during wave two data collection and was subsequently dropped from the data set (Casanueva et al., 2012).

For NSCAW II, two domains of children were oversampled in order to ensure sufficient numbers of children in groups of particular research interest: infants and children in out-of-home placement (Dolan et al., 2011). The stratified and clustered sampling methods, combined with the oversampling of some subgroups of children, resulted in a complex weighted study design that requires the application of statistical weighting procedures to produce accurate estimates with generalizability to the target population (Dowd et al., 2010). The appropriate survey weights, as provided in the NSCAW statistical documentation, were used throughout the present analysis, and all results can be assumed to be weighted findings unless otherwise indicated explicitly. A thorough description of sampling design, sampling procedures, and statistical weighting formulas for both NSCAW I and NSCAW II can be found in the NSCAW II Wave 1 Data File User's Manual (Dowd et al., 2010), available publicly from the National Data Archive on Child Abuse and Neglect [NDACAN] at Cornell University.

3.3 Variables and Measures

The NSCAW II research team collected child-, family-, and case-level data from multiple face-to-face interview sources for each subject: the child (if over 11-years-old), current caregiver (parent or non-parent, permanent or non-permanent), CPS investigative caseworker, and teacher (when applicable) (Dolan et al., 2011). The current study uses variables from two sources: variables from the caseworker interview instrument, and "derived variables," which are variables created by the NSCAW research team by combining information from more than one source, or by creating new value categories from other single variables. (NSCAW II, 2010a; 2010b). The NSCAW II derived variables are primarily variables that would be of common interest across many research studies, including child and caregiver demographics (age, race, etc.) and key case-level outcomes (including the outcome variables for the current study). Derived variables were created from many sources in the survey. Some were part of the initial data file obtained by the NSCAW II research team directly from the PSU for each subject child. In other words, rather than being obtained from one of the survey informants, they were recorded directly from the administrative database in each PSU and provided as part of the general identifying data on each child in the sampling frame (NSCAW II, 2010b). Other derived variables were created from questions in one or more of the survey instruments collected for each subject child.

In the current study, the demographic variables are derived variables, while the risk assessment variables were taken directly from responses to the caseworker interview instrument. Unlike other informants in the NSCAW II, caseworkers were not interviewed using externally-validated measurement instruments. Rather, the caseworker instrument is a project-developed tool created by NSCAW researchers to obtain agency information about child and family characteristics, case investigation and disposition, alleged abuse, risk assessment, services provided to children and parents, and the child's living environment(s) (Dowd et al., 2012). Because the research aims of the present study are related to child welfare decision-making and case outcomes by allegation type, the information provided directly by the caseworker is the most relevant and appropriate for this analysis, especially as it relates to risk assessment and case allegations.

The variables (independent, dependent, and covariate) used in the current study are described below. These variables represent information that describe circumstances of the child and family as assessed at the time of the investigation and reported during interviews during the first wave of data collection. All information about these variables and their sources were obtained from the NSCAW II Data File User's Manual and appendices and the NSCAW II Baseline Introduction Report (Dolan et al., 2011; Dowd et al., 2012).

3.3.1 Dependent variables. There are three outcome variables for this study representing three key child welfare case-level decision points.

- *Substantiation*: This binary variable (*unsubstantiated vs. substantiated*) is an indicator of cases ending in a disposition of substantiation versus all other dispositions.

  When a case is *substantiated,* it is an indicator that the investigating CPS agency considered the case to be a valid or founded instance of maltreatment according to the laws or policies of that state (NSCAW II, 2010b). While services can be provided to families without a substantiated finding, research indicates that families are more likely to receive services if the case is substantiated, effectively making substantiation a common gateway to more intensive CPS involvement, including court involvement and foster placement (Kohl, Jonson-Reid & Drake, 2009). There is a growing body of research indicating that substantiation is a poor proxy of whether maltreatment actually occurred, since many factors not associated with maltreatment have been shown to influence substantiation (Cross & Casanueva, 2009; Drake, 1996; English et al., 2002), and since substantiation may be unrelated to important indicators of child risk and vulnerability, such as future re-referral to CPS (Kohl, Jonson-Reid & Drake, 2009) and long-term behavioral and developmental outcomes (Hussey et al., 2005). Despite these important and salient critiques of substantiation as a proxy for maltreatment, it is considered one of the key child welfare decision points in the process of completing a CPS investigation, and because it often precedes more intensive intervention and services, it is considered an important outcome for this study examining potential differential processing of child welfare cases by allegation type.

- *Service Provision*: This variable is a dichotomous indictor (*no services provided/services provided*) of whether any child welfare services were paid for and provided by or arranged by CPS for the child or family. Child welfare services, as defined by the NSCAW II documentation, includes a host of services for children or their caregivers, including counseling, mental health services, drug treatment, parenting training, and educational or employment services, among many others (see NSCAW II, 2010a and 2010b for a more thorough list of child welfare services included in NSCAW II definitions and instruments). This variable indicates whether the investigating CPS agency determined that the child or family required intervention beyond the case investigation.

- *Out-of-home Placement:* This binary variable (*in-home/out-of-home*) indicates whether the child had been placed in an out-of-home setting when data were collected at Wave 1. Out-of-home placement is an indicator that the child was not considered safe remaining in the home upon CPS investigation/assessment.

3.3.2 Primary independent variable. The primary predictor of interest for this study is the *presence of domestic violence in the CPS intake report as an alleged abuse type*, either alone or with other allegations. The variable was created by the author by recoding

the item on the caseworker instrument that asks the worker, "Tell me the type or types of abuse or neglect reported on [REPORT INTAKE DATE]" for the referent case (NSCAW II, 2010a, question C_AA1a). There are 17 types of alleged maltreatment listed as response options in NSCAW II:

1. Physical maltreatment
2. Sexual abuse
3. Emotional abuse
4. Physical neglect
5. Neglect
6. Abandonment
7. Moral/legal maltreatment
8. Educational maltreatment
9. Exploitation (e.g., sale of minor's time or behavior)
10. Other
11. Prematurity or low birth weight
12. Substance exposure (e.g., born with drugs in system)
13. **Domestic violence**
14. Substance-abusing parent
15. Voluntary relinquishment
16. Children in need of services (CHINS)
17. Investigation/report was only way to get needed services for family

For this study, the domestic violence independent variable was created by recoding the caseworker responses to this interview question. The author recoded this variable to sort all subject children whose caseworker answered the question about alleged abuse type (N=5,055 due to missing data, discussed in a subsequent section) into one of three groups:

Group 1:   **DV-only**. Domestic violence was the *only* alleged abuse type identified at case intake. (The caseworker selected *only* item #13 from the list of maltreatment types.)

Group 2:   **DV+other**. Domestic violence was identified as an alleged abuse type at intake *concurrently* with at least one other type of maltreatment. (The caseworker selected item #13 *and* at least one other item from the list of maltreatment types.)

Group 3:   **No-DV**. Domestic violence was *not* identified as an alleged abuse type in the intake report; only one or more other types of maltreatment were selected. (The caseworker selected one or more items *other than* item #13 from the list of maltreatment types.)

The frequencies and proportions for this variable are summarized in Table 3.1. The possibility of group diffusion, specifically that there may be "false negatives" in the no-DV group is discussed in the study limitation section in chapter 5. For the bivariate analysis

phase of this study (research question 1), this variable was used as a *categorical* variable with the three values described above. For the multivariate regression analysis (research question 2), this variable was recoded into *indicator* variables: DV-only (vs. else) and DV+other (vs. else), with no-DV set as the baseline indicator. In the results and discussion sections of this study, the two DV groups are sometimes jointly referred to as *DV-referred* cases.

Table 3.1: Frequency and proportion of NSCAW II cases by presence of DV as an alleged maltreatment type

	Raw Sample (unweighted)		Population Estimates (weighted sample)	
	n	%	n	%
DV-only	225	4.5	80,863	3.7
DV+other	475	9.4	157,677	7.3
no-DV	4,355	86.2	1,927,596	89
Total	5,055		2,166,136	

3.3.3. Covariates.

The selection of covariates was based on demographic and risk variables that have been associated with the child welfare case outcomes of interest in prior research. All of the demographic variables are derived variables created by the NSCAW II research team (NSCAW II, 2010b). Variables were recoded by the author as noted below to change the scale or type as appropriate for the analytic methods.

The risk assessment variables were taken directly from the caseworker instrument; they are all based on the caseworker's assessment as reported in response to the questions in the caseworker interview. Variables taken directly from the caseworker instrument are documented below with the wording of the question as asked in the caseworker interview. Negative response values (such as "refused" or "don't know" responses) were recoded as missing data. Though the risk assessment variables are all based on subjective assessment by the caseworker, the caseworker responses are considered meaningful and appropriate for this study in light of the analytic focus on caseworker decision-making and case processing, which are influenced by the subjective assessments and judgments of caseworkers. The subjectivity of caseworker responses is addressed as a study limitation in Chapter 5.

There is an important feature of variables related to caregiver characteristics that warrants discussion because of the impact on the selection of variables for this study. For

each child in the study, the NSCAW II research team interviewed the "current caregiver" of the child. This means that for children who remained in-home at the close of the investigation, the current caregiver was the primary custodian of the child, typically the mother (Dolan et al., 2011). However, for children living in out-of-home care at the close of the investigation, the current caregiver was their substitute caregiver, which may have been a foster parent or a kinship care provider (Dowd et al., 2010). This difference in interview source for "current caregivers" means that variables on caregiver characteristics (including demographics) combine biological and substitute caregivers, which if included, would present a difficult problem for answering the research questions in this study. In examining the relationships of caregiver characteristics to case outcomes, only the characteristics of the caregivers the children were living with at the time of the investigation are relevant. The relationships between foster parent characteristics and investigative case outcomes are not meaningful or germane to the research questions in this study. The combining of in-home and substitute caregivers as respondents of the caregiver interview also presents a time-ordering problem for the out-of-home placement outcome: characteristics of substitute caregivers cannot possibly predict whether a child attains an out-of-home placement outcome because the outcome precedes the assignment of the out-of-home caregiver.

This problem can only be nullified if variables sourced from "current caregiver" interviews (including caregiver demographic information and household income) are excluded from the analysis. Variables sourced from the caseworker instrument (rather than the caregiver instrument) are not subject to this problem, because caseworkers were specifically instructed that questions pertaining to the "primary caregiver" were to be answered about *either* the child's usual primary caregiver (if the child remained in-home at the close of the investigation) *or* the caregiver from whom the child was removed (if the child was placed out-of-home as a result of the investigation) (NSCAW II, 2010b). There are four main covariates that would have otherwise been included in the analysis but were excluded because they were sourced from the current caregiver interview: caregiver age, caregiver race, caregiver education level, and percentage of the federal poverty level of the caregiver's household income. Of these, caregiver race and household poverty level were replaced with proxies not sourced from caregiver interviews (child race, and caseworker assessment of financial difficulty, respectively). These variables are described below along with all of the covariates considered in the analysis.

Demographic variables.

- Child age (*0-2, 3-5, 6-10, 11+*)*:* This derived variable, indicating the child's age at the time of the CPS investigation opening, was coded into categories by the NSCAW research team. The bivariate analysis section of this study used the categorical scaling. For the multivariate analysis, an indicator was created by the author for each category, with *0-2* set as the referent group.

- Child gender (*male/female*). The binary gender variable used *female* as the baseline group in multivariate analysis.

- Child race/Hispanicity (*Black, White, Hispanic, other*): This variable was derived by the NSCAW research team. When more than one race was reported for a subject child, the child was assigned to the rarest reported race category. The categorical scaling of this variable was used in bivariate analysis. For the multivariate analysis, an indicator was created by the author for each category, with *White* set as the referent group.

    Risk assessment variables. For all binary risk assessment variables used in multivariate analysis, the baseline was set as the absence of the risk factor.

- Prior CPS reports (*yes/no*): This variable is from the caseworker instrument question (C_RA1a) asking, "Were there any prior reports of maltreatment to the agency?"

- Level of risk (*none, mild, moderate, severe*): This variable is from the caseworker instrument question (C_CI14a) asking, "Regardless of the outcome of the investigation, how would you describe the level of severity of risk?" The bivariate analysis section of this study used the ordered categorical scaling of the variable. For the multivariate analysis, indicators were created by the author for each category, with *none* set as the referent group.

- Level of harm (*none, mild, moderate, severe*): This variable is from the caseworker instrument question (C_CI13a) asking, "Regardless of the outcome of the investigation, how would you describe the level of harm to [the subject child]?" The bivariate analysis section of this study used the ordered categorical scaling of the variable. For the multivariate analysis, indicators were created by the author for each category, with *none* set as the referent group.

- History of recent caregiver arrest (*yes/no*): This variable is from the caseworker instrument question (C_RA18a) asking, "Does [the primary caregiver] have a recent history of arrests or detention in jail or prison?"

- Caregiver substance abuse (*yes/no*): This variable was created by the author as a recoding of two separate variables regarding active alcohol use and active drug use by the primary caregiver. These questions (C_RA13a/C_RA14a) asked, "At the time of the investigation, was there active alcohol abuse/drug abuse by [the primary caregiver]?" A new *substance abuse* variable was created by the author, with a *yes* value indicated if the caseworker answered affirmatively to either of the two questions on alcohol and drug abuse.

- Caregiver serious mental health problem (*yes/no*): This variable is from the caseworker instrument question (C_RA17a) asking, "At the time of the investigation, did [the primary caregiver] have any serious mental health or emotional problems?"

- Caregiver cooperation with the investigation (*yes/no*): This variable is from the caseworker instrument question (C_RA39a) asking, "At the time of the investigation, was there a reasonable level of caregiver cooperation?"

- High family stress level (*yes/no*): This variable is from the caseworker instrument question (C_RA43a) asking, "At the time of the investigation, was there high stress on the family? This may have resulted from things like unemployment, drug use, poverty, or neighborhood violence."

- Low social support (*yes/no*): This variable is from the caseworker instrument question (C_RA45a) asking, "At the time of the investigation, was there low social support? This could include a lack of family and/or community support."

- Family financial difficulty (*yes/no*): This variable is included as a crude proxy for poverty, since the variable indicating actual household income comes from the current caseworker interview and therefore could not be included in the analysis. It is from the caseworker instrument question (C_RA47a) asking, "At the time of the investigation, did the family have trouble paying for basic necessities such as food, shelter, clothing, electricity, or heat?"

- Poor parenting skills (*yes/no*): This variable is from the caseworker instrument question (C_RA23a) asking, "At the time of the investigation, did [the primary caregiver] have poor parenting skills, such as failure to supervise or monitor children routinely, or harsh discipline?"

- Child special needs (*yes/no*): This variable is from the caseworker instrument question (C_RA11a) asking, "At the time of the investigation, did [the child] have major special needs or behavior problems? 'Special needs' means developmental disabilities."

- Caregiver intellectual/cognitive impairment (*yes/no*): This variable is from the caseworker instrument question (C_RA19a) asking, "At the time of the investigation, did [the caregiver] have any intellectual or cognitive impairments? This may include mental retardation, senility, Alzheimers, severe learning disabilities, stroke, or brain injuries."

- Caregiver physical impairment (*yes/no*): This variable is from the caseworker instrument question (C_RA21a) asking, "At the time of the investigation, did [the caregiver] have any physical impairments."

- History of maltreatment of the caregiver (*yes/no*): This variable, concerning whether the caregiver had ever been a *victim* of maltreatment, is from the caseworker instrument question (C_RA35a) asking, "Was there a history of abuse and neglect of [the caregiver]?"

3.4 Data Analysis

This analysis was completed with two statistical computing programs: SAS with SUDAAN, and STATA 11. The independent variable (DV as an abuse allegation) was created by recoding an NSCAW II caseworker instrument variable (described above) using SAS with SUDAAN. After this variable was created, the other variables of interest for this study were selected from the full NSCAW II baseline data set and exported from SAS to STATA as a subset of the full data set for use in the current analysis. In both programs, appropriate statistical weights were applied to account for clustering, stratification, and oversampling in the complex NSCAW II sample design.

This study was conducted in two phases corresponding to the two research questions of interest. The data analysis methods are presented for each research question.

> **Question 1**. *What are the differential demographics, risk factors, and outcomes of CPS cases reported for DV, alone or with other allegations, compared to cases reported for maltreatment types other than DV?*

For this question, a series of bivariate analyses were conducted to see if the presence of DV as a maltreatment allegation is significantly associated with multiple, child-, family-, and case-level factors. The three categories of the primary independent variable (DV-only, DV+other, no-DV) were cross-tabulated with the demographic, risk, and outcome variables to examine whether associations with these variables differed across DV groups, using X^2 testing (α=.05) to assess for statistically significant differences. The aim of this section of the analysis was to determine whether the three categorical groups of the independent variable (DV-only, DV+other, no-DV) have distinct features in terms of demographic characteristics, case outcomes, and risk profiles.

> **Question 2**: *Is the presence of DV as a maltreatment allegation an independent predictor of key child welfare outcomes after controlling for demographic and risk variables?*

Multivariate logistic regression was employed to determine predictors of the three outcome variables: substantiation, service provision, and out-of-home placement. Logistic regression is the appropriate method for examining relationships between dichotomous dependent variables and independent control variables that are continuous, categorical, or dichotomous (Jewell, 2004).

Separate regression models were executed for each of the three outcome variables. The variables for the models were selected using the Hosmer-Lemeshow method of backward stepwise logistic regression model building (Hosmer & Lemeshow, 2000; see also Heeringa, West & Berglund, 2010, and Jewell, 2004). The Hosmer-Lemeshow method is recommended for complex research questions in which there are a large number of

independent variables that could potentially be associated with the outcome of interest, and the exact relationships between these variables and the outcome are not known *a priori*. The Hosmer-Lemeshow process outlines a systematic approach to selecting and evaluating variables in a logistic regression model, towards the goal of choosing the most parsimonious model that fits the observed data (Hosmer-Lemeshow, 2000). Model parsimony is desirable in logistic regression because models with fewer variables have greater statistical power, produce more stable estimates with smaller standardized errors, and increase generalizability to the target population (Hosmer & Lemeshow, 2000; Jewell, 2004).

For this study, the Hosmer-Lemeshow method was used to fit a regression model for the substantiation outcome, the first of the three key front-end child welfare decision points of interest in this study. Once the appropriate model was selected systematically using this methodology, the selected variables were retained for use with the subsequent two outcomes (service provision and out-of-home placement), with goodness-of-fit testing used to confirm the fit of the model to all three outcomes.

The steps of the Hosmer-Lemeshow method are explained in statistical detail by Hosmer and Lemeshow (2000), and summarized succinctly by Jewell (2004) and Heeringa, West, and Berglund (2010). The basic steps are described below with discussion of their application to the current study. These steps are presented as an overview of the study methodology for the multivariate analysis. The results of this process are presented subsequently, in Chapter 4.

1. *Fit a series of univariate models regressing each independent variable of interest with the outcome of interest.*

All of the variables described in the previous section were regressed on the substantiation outcome to obtain unadjusted coefficients.

2. *Retain the variables that are significant at an elevated threshold of α=0.20.*

All variables were significant at α=0.20 except *child race, child gender,* and *child special needs. Child race* and *child gender* were retained in the regression model as demographic variables despite non-significance for conceptual reasons.

3. *Fit a regression model with all of the variables that were retained as reasonably significant in univariate regression. This is the saturated model without interaction terms.*

The initial (saturated model) included all variables of interest except *child special needs* and *history of maltreatment of the caregiver.* The latter was excluded due to a high percentage of missing data for that variable (n=4,260, representing over 15% missingness from the total sample size of children with completed caregiver interviews), resulting in a

substantial loss of sample size in the regression model. Because all covariates have some amount of missing data due to non-response, an ad hoc threshold of 10 percent was selected as a cutoff for excluding variables from the analysis in order to preserve sample size in the regression modeling. The *history of maltreatment of the caregiver* variable was the only variable that had missingness above the 10 percent threshold, and therefore it was the only one excluded for this reason.

4. *One at a time, remove variables that are no longer significant in the multivariate model, assessing model fit at each step to check that the reduced model does not fit the data worse than the subsequent one.*

Variables were removed from the model based on the highest p-values until all variables were significant. A few variables were not significant in any model but were nonetheless retained because they are considered conceptually important (e.g., *child race* and *prior CPS reports*). The fourth iteration of the model (discussed in detail in Chapter 4) was selected as the balance point between parsimony and model fit based on diagnostic testing. Likelihood ratio testing, a standard method for comparing nested models in logistic regression using non-weighted data, is not supported in the analysis of weighted survey data due to violations of independence assumptions resulting from clustered data (Heeringa, West, & Berglund, 2010). Instead, adjusted Wald tests for individual parameters *and* for the entire model were used to assess fit of each model, and the Archer-Lemeshow goodness-of-fit test was used to compare fit between models by assessing the residuals of each fitted model.

Adjusted Wald tests of model fit test the null hypothesis that all coefficients (β) in a given model are equal to zero. For complex weighted data, this test result is reported as an *F*-statistic with an associated p-value. A p-value below the selected alpha (α=0.05) warrants rejection of the null hypothesis and indicates that one or more parameters in the model are significantly contributing to the outcome.

The Archer-Lemeshow (A-L) *F*-adjusted mean residual goodness-of-fit test was developed specifically for application to data collected with complex sampling designs (Archer & Lemeshow, 2006; Archer, Lemeshow, & Hosmer, 2007). The A-L procedure tests the null hypothesis that the expected frequencies generated by the regression model adequately match the actual frequencies of the observed data. Therefore if the p-value associated with the Archer-Lemeshow test is below the selected significance level (α=0.05), then the null hypothesis is rejected, and this is considered evidence that the model does *not* adequately fit the data. In contrast, an Archer-Lemeshow test statistic p-value above the designated significance level results in a failure to reject the null hypotheses and a conclusion that there is no evidence of lack of fit between the model and the observed data (Archer & Lemeshow, 2006; Archer, Lemeshow, & Hosmer, 2007).

5. *When a model is reached where all variables are significant (α=0.05) or have been retained because they are conceptually important, re-add the variables discarded after step 1 to see if they are now significant in the multivariate model.*

The sole variable that was discarded due to insignificance in step 1 (*child special needs*) was added back into to the final chosen model, but it did not attain significance and was removed.

6. *Attend to the scale (continuous, categorical, indicator, etc.) of the control variables based on their linearity with the outcome as needed to improve model fit.*

The majority of variables in the analysis are binary and therefore only have one scaling option. For the non-ordinal categorical variables in the analysis (*child race* and *DV as alleged abuse type*), indictors were created for each category of the variables. For the ordinal categorical variables (*child age, level of risk,* and *level of harm*), the categories were plotted against the outcome to check for linearity. *Child age* was not linear with the outcome, and therefore indicators were created for each age group. *Level of risk* and *level of harm* were both linear with the outcome, so the modeling process was conducted twice; first using the categorical scaling, and again using indicators for each category. Goodness-of-fit testing indicated that model fit was improved in the models using the indicators, so these were used instead of the categorically-scaled variables in the final model.

7. *Add a limited number of interaction terms that reflect "plausible interactive effects"* (Jewell, 2004, p. 247) *based on content knowledge of the research question.*

Multiple interaction terms were tested for inclusion in the final multivariate model. Several interaction terms were found to be significant in univariate analysis with the outcome, but none were significant once added to the selected multivariate model. This process and the findings are detailed in Chapter 4.

8. *Assess the final model for goodness-of-fit.*

As described above under step 4, the Archer-Lemeshow *F*-adjusted mean residual goodness-of-fit test was used to confirm that the selected model adequately fit the observed data.

3.6 Missing Data

Most of the covariates in this analysis were sourced from the NSCAW II caseworker interview instrument. Though there are 5,872 subject children in the study, 782 caseworker instruments were not completed during wave 1, primarily due to caseworker

unavailability during the data collection period. This results in a maximum sample size of N=5,090 for the variables which use the caseworker instrument as the sole data source.

The uncompleted caseworker interviews are not the only source of missingness in the data. For example, 35 caseworkers who did complete the caseworker interview answered "refused" or "don't know" in response to the question about alleged abuse type, which means that all analyses using the primary independent variable (DV-only, DV+other, no-DV), have a maximum sample size of N=5,055. In addition, regression analysis excludes any observations (cases) that have a missing value on any variable in the model. Missing values on any given variable were generated when the caseworker was not willing or not able to answer a given item on the interview instrument. Since the regression analysis drops these observations, the sample sizes for the final regression models for each outcome variable are reported to indicate the degree of data missingness beyond the absent caseworker interviews. The sample sizes in the regression models thus reflect all cases with a completed caseworker instrument *and* that had no missing cells for any of the included variables.

The missing caseworker interviews are the largest single source of missing data in the present analysis. To determine whether cases without a completed caseworker interview differ systematically from cases which have a completed caseworker interview, these two samples were compared to test for differences in demographic characteristics and case outcomes. Results are presented in Chapter 4.

3.7 IRB Approval and NCSAW II Data License

Permission to use the restricted version of the NSCAW II data set was granted by the National Data Archive for Child Abuse and Neglect (NDACAN). The Institutional Review Board (IRB) of the University of California, Berkeley, Office for the Protection of Human Subjects approved the study protocol for the secondary analysis of these data through an expedited review (Protocol No. 2011-03-2989). Though the data in this set are de-identified, IRB approval was necessary due to the remote risk of deductive identification of subjects by combining geographical detail and rare outcomes.

Chapter 4: Results

This chapter presents the results of the empirical data analysis detailed in the previous chapter on study methodology. In the first section, descriptive statistics are presented to elucidate key characteristics of the study sample, including weighted and unweighted distributions of the demographic, risk, and outcome variables of interest in this study. The comparison of demographic characteristics of cases with completed caseworker instruments to those without is also presented in the descriptive statistics section. The second section reports the results of the bivariate analysis conducted to examine associations between the DV allegation groups and other study variables. The last section reports findings of the logistic regression analysis to examine predictors of case outcomes. The regression findings are presented in three subsections – one for each outcome variable of interest.

4.1 Descriptive Statistics

A key factor in analyzing variable distributions with NSCAW II data is understanding the differences in the raw unweighted sample and the weighted sample. As described in Chapter 3, NSCAW II data are clustered in agencies that had unequal selection probabilities in the sampling process *and* certain subgroups of children were intentionally oversampled. Because of these factors, weighted and unweighted variable distributions can look very different, especially in regard to demographic and outcome variables. The distributions of the child age variable differ substantially in weighted and unweighted frequencies because one of the oversampled groups in NSCAW II is infants. In addition, the three case outcomes have very different weighted compared to unweighted distributions because cases involving infants are more likely to result in more intensive levels of intervention, and because children in out-of-home placement (referred to in some tables and figures throughout this chapter as OOH placement) were also oversampled in the NSCAW II study.

Only weighted estimates are used in the statistical analysis for this study, reported in the subsequent sections of this chapter. Using correct weighting procedures and statistical commands in the analysis process is crucial for obtaining estimates that have inference to the target population. However, in this section reporting descriptive statistics on the frequency and proportions of the variables used in the analysis, both weighted and unweighted data distributions are provided for comparison.

In order to describe the sample, Table 4.1 summarizes the distributions for all variables used in the analysis. Figures 4.1 – 4.7 are then provided to graphically display distributions of some of the key variables of interest in the study, highlighting differences in weighted and unweighted variable proportions. Finally, this section ends with an analysis of missing data that explores demographic differences in cases based on whether the caseworker interview was completed.

Table 4.1: Variable distributions: Weighted and unweighted frequencies and proportions[a]

|	Raw sample (unweighted data)		Population estimates (weighted data)	
	n	%	n	%
DV as maltx allegation				
DV-only	225	4.5	80,863	3.7
DV+other	475	9.4	157,677	7.3
No-DV	4,355	86.2	1,927,596	89.0
Demographic Factors				
Child age				
Age 0-2	2,937	50.0	510,861	20.6
Age 3-5	828	14.1	558,958	22.6
Age 6-10	1,053	17.9	682,496	27.6
Age 11+	1,054	18.0	722,530	29.2
Child race				
White	2,003	34.2	1,032,610	41.9
Black	1,827	31.2	561,361	22.8
Hispanic	1,614	27.6	685,894	27.8
Other	407	7.0	186,274	7.6
Child gender				
Female	2,855	48.6	1,215,997	49.1
Male	3,017	51.4	1,258,849	50.9
Risk Factors				
Previous CPS reports	2,896	58.6	1,257,431	59.6
Financial difficulty	1,618	33.8	502,163	24
Level of assessed risk				
None	789	17.1	708,919	36.2
Mild	1,041	22.5	654,162	33.4
Moderate	1,482	32.1	421,030	21.5
Severe	1,307	28.3	172,392	8.8
Level of assessed harm				
None	1,443	28.9	1,051,583	48.7
Mild	1,297	25.9	649,926	30.1
Moderate	1,417	28.3	355,796	16.5
Severe	843	16.9	103,971	4.8
CG intellectual/cognitive impairment	360	7.4	65,175	3.1

CG physical impairment	221	4.5	90,877	4.3
CG substance abuse	1,532	26.1	263,294	12.2
Recent CG arrest	1,121	24.3	275,633	13.8
Hx of maltreatment of CG	1,380	32.3	374,070	20.3
CG serious MH problem	1,334	28.2	300,036	14.4
CG cooperation with CPS	4,247	85.1	1,976,137	91.9
Poor parenting	1,903	39.1	413,032	19.6
High stress in family	3,080	62.8	1,063,802	50.5
Low family support	1,743	35.9	515,034	24.6
Case Outcomes				
Substantiation	3,613	62.5	596,196	24.9
Service provision	4,112	70.0	717,407	29.0
Out-of-home placement	2,237	38.1	381,191	12.9

[a]Frequences and proportions given for binary variables reflect "yes" responses to the source questions.

Distribution of the primary independent variable. The frequencies and proportions for the DV allegation type variable are fairly consistent between weighted estimates and the raw sample. As discussed in the previous chapter, the groups are substantially unbalanced, with the majority of cases falling into the no-DV group in both the raw sample and the population estimates. Weighted and unweighted proportions for the three categories of this variable are displayed in Figure 4.1.

Figure 4.1: DV allegation groups, weighted and unweighted proportions
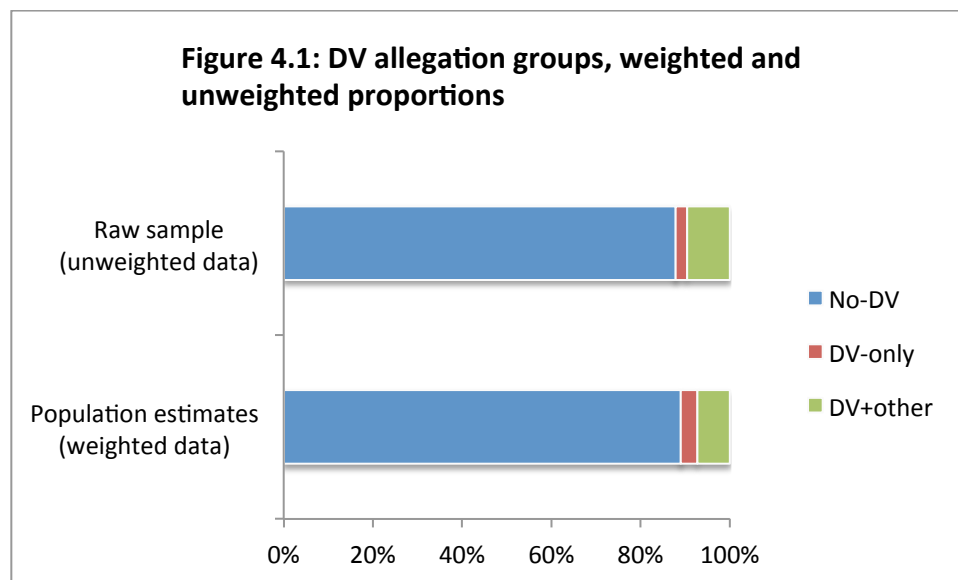
There are several plausible reasons that the total sample proportions of DV-referred cases are considerably smaller than the no-DV group , and these possible explanations are discussed at greater length in Chapter 5. One of the potential interpretations worth

empirical exploration is whether this may be attributable to variance among the 81 NSCAW II PSUs in terms of their individual proportions of DV-referred cases, which is likely related to the differences among agencies with regard to defining DV as maltreatment. If DV is not included as a maltreatment in a given PSU, there would not be any DV-referred cases in that PSU. The total sample proportions of DV-only and DV+other cases reflect the *aggregated* proportions of all PSUs. To explore whether there is substantial variance among individual PSUs that might explain the low aggregate proportions of DV-referred cases, the DV allegation groups were cross-tabulated by PSU.[1]

Figure 4.2 displays the number of PSUs containing categorized proportions of the two DV-referred groups. This figure demonstrates that there is substantial variance in proportions of DV-referred cases among PSUs in the NSCAW II. For example, fully half of PSUs (n=41) have *zero* DV-only cases, while there are only seven PSUs with greater than 15 percent of their cases falling into the DV-only group. The DV+other cases are slightly more evenly spread out among PSUs; only 12 PSUs have no DV+other cases, while 13 have more than 15 percent. It is also worth noting that more than 10 percent of all PSUs (n=9) have *no* cases in the DV-only *or* the DV+other categories; all of their cases fall in the no-DV group (see Appendix A).

Figure 4.2.: Frequency of DV-referred cases by PSU

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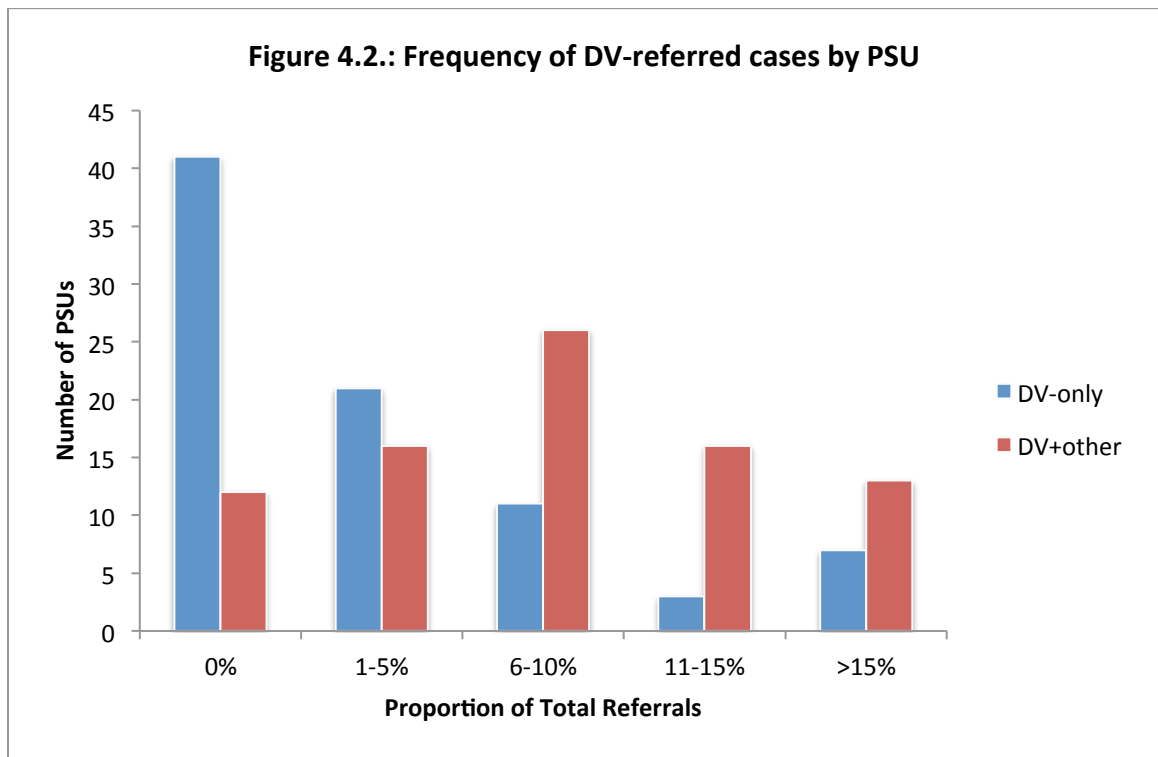
[1] Though there are 81 PSUs in the sampling frame, there are 83 counties represented, and the PSU variable in the NSCAW II dataset includes all 83 counties, not just the 81 PSUs. This results in 83 agencies listed as "PSUs" instead of 81. The full table of DV allegation groups by PSU can be found in Appendix A.

The findings regarding distribution of DV referrals by PSU will be revisited along with other potential explanations for imbalances among referral groups in the first section of Chapter 5.

Distributions of demographic variables. The differences in weighted and raw proportions for the child age categorical variable are readily seen in Figure 4.3. The oversampling of infants in the NSCAW II design results in their disproportionate representation in the study sample compared to the target population.

Figure 4.3: Child age categories, weighted and unweighted proportions
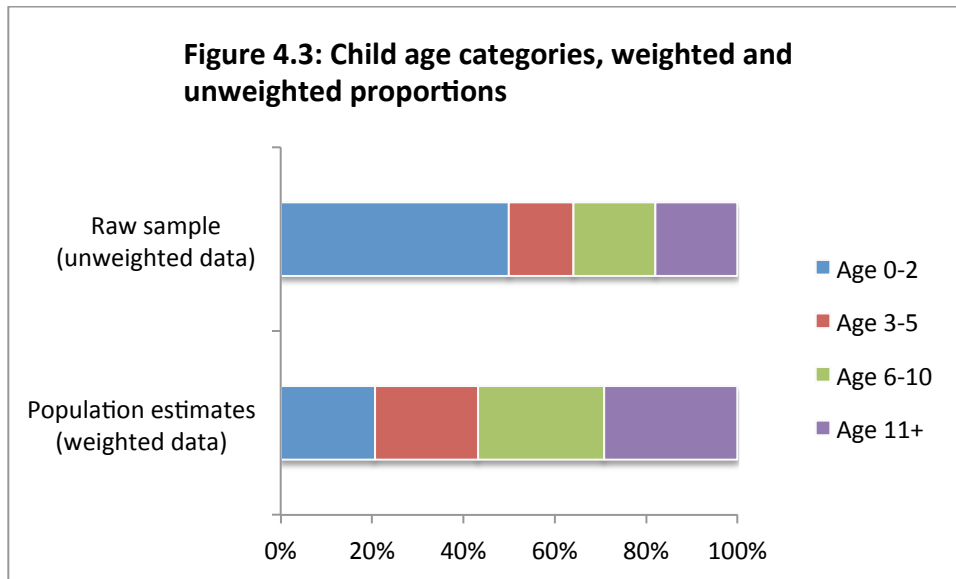
Child race distributions are fairly consistent between raw and weighted samples, but Figure 4.4 displays the slight underrepresentation of White children and overrepresentation of Black children in the raw sample compared to the target population.

Figure 4.4: Child race categories, weighted and unweighted proportions
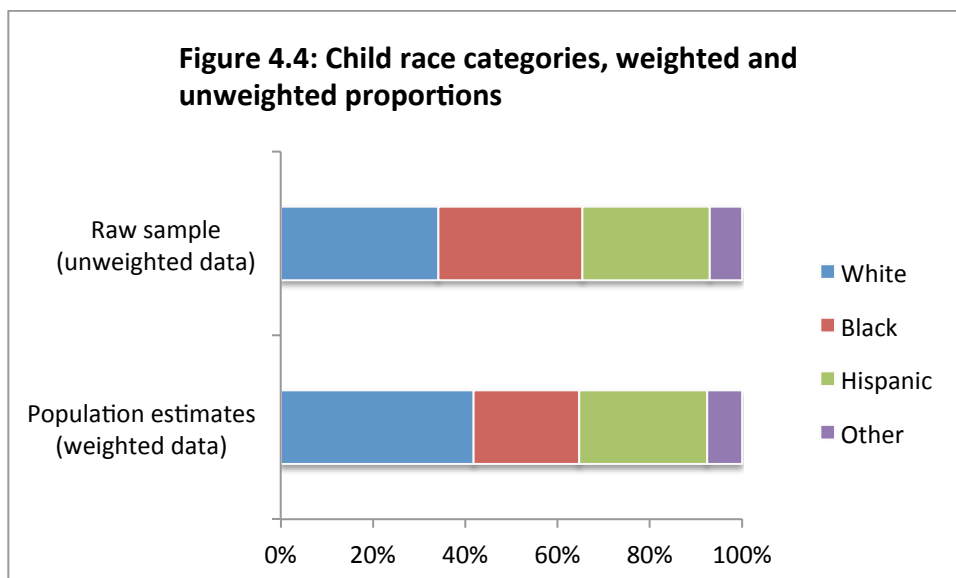
Distributions of outcome variables. The outcome variables exhibit dramatic differences between raw distributions and population estimates. For the substantiation and service provision outcomes (Figure 4.5 and 4.6, respectively), the proportions are practically inverted when survey weights are applied, underscoring the vital importance of using the weighted estimates for statistical analysis. The oversampling of out-of-home placement cases in the NSCAW research design is also apparent in Figure 4.7.

Figure 4.5: Proportion of substantiated cases, weighted and unweighted

Figure 4.6: Proportion of cases receiving services, weighted and unweighted

Figure 4.7: Proportion of cases resulting in out-of-home (OOH) placement, weighted and unweighted
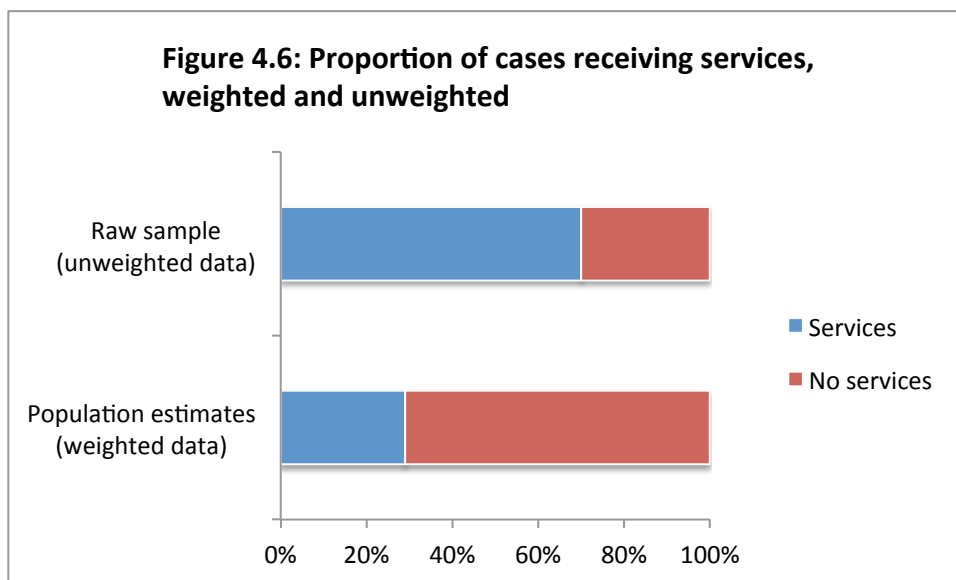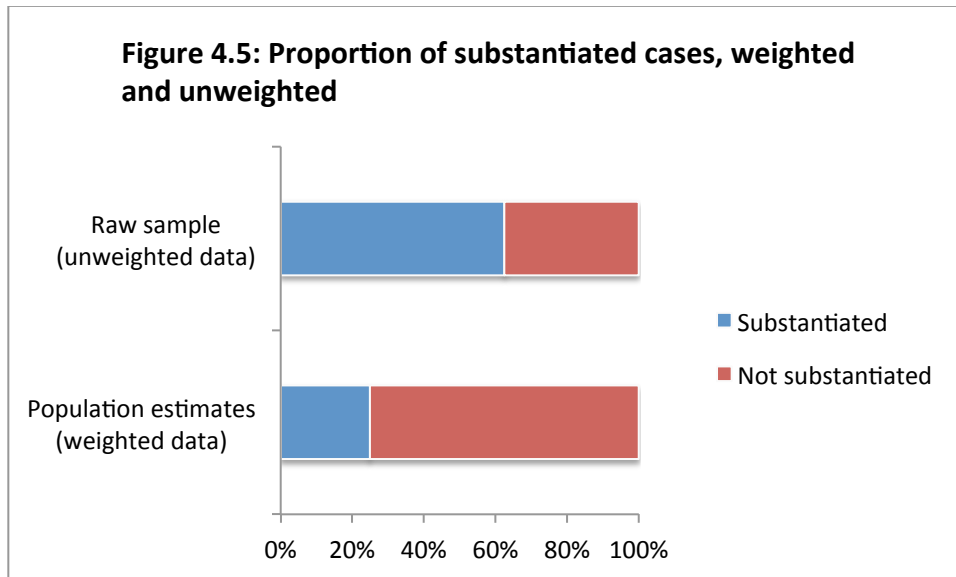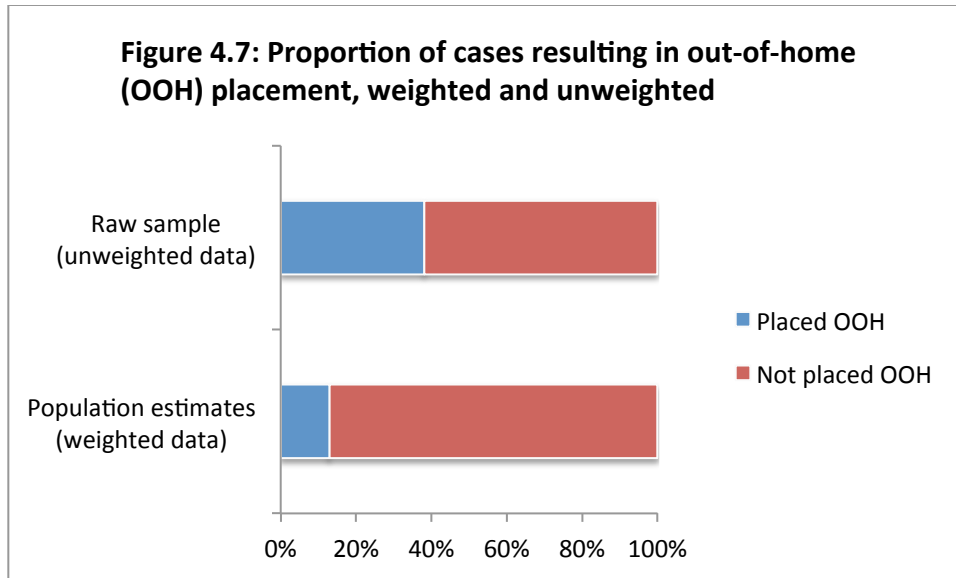
Missing data due to incomplete caseworker interviews. Though missing caseworker interviews are not the only source of missing data in the sample, they are the largest single source, with 13% (n=792) of the full sample of cases (N=5,278) missing the caseworker interview. The primary reason for missing caseworker interviews is documented as "unavailable" in the response coding for the instrument completion variable (NSCAW II, 2010b). Because all of the analyses in the present study use variables sourced from the caseworker instrument, these cases are missing from all sections of the analysis. To determine whether cases missing caseworker interviews are systematically different in their demographic case characteristics from cases with completed interviews, the variable indicating caseworker completion (recoded to a binary *completed* vs. *not completed*) was cross-tabulated with child demographic variables. Pearson X^2 tests were employed to determine whether demographic differences between groups were significant. Results are presented in Table 4.2.

Table 4.2: Demographic differences among cases by completion of caseworker interview

	CW instrument % completed	X^2 statistic	p-value
Child age		3.57	0.31
Age 0-2	87.8		
Age 3-5	88.4		
Age 6-10	86.3		
Age 11+	85.5		

Child race			15.21	0.002
White	89.3			
Black	85.9			
Hispanic	85.6			
Other	85.5			
Child gender			0.029	0.87
Female	86.7			
Male	86.6			

While no significant differences were found in child gender or age, there were significant differences found by race. Specifically, White children were more likely to have completed caseworker interviews than children of other races. The reason for this disparity is not known, and is not answerable from these data. However, this finding means that White children are overrepresented in the statistical analyses for this study, because both the bivariate and multivariate analyses use variables sourced from the caseworker interview. This is a limitation of the study that is discussed in Chapter 5.

4.2 Research Question 1: Bivariate Analysis

What are the differential demographics, risk factors, and outcomes of CPS cases reported for DV (alone or with other allegations) compared to cases reported for maltreatment types other than DV?

The aim of the first research question in the present study is to determine whether the three comparison groups of cases by allegation (DV-only, DV+other, and no-DV) have distinct features. Specifically, this question seeks to determine whether the groups differ in demographic composition, presence of risk factors, and case outcomes.

As summarized in Table 4.3 and discussed below, there are significant differences between groups in all of these areas. Due to statistical weighting to account for the complex survey design, the X^2 test statistic is converted to a design-corrected F-statistic, reported in Table 4.3 with the weighted proportions for each cross-tabulated variable. Proportions given for binary variables reflect "yes" responses to the interview source questions.

Table 4.3: Differential characteristics of cases by DV as an abuse allegation

	DV-only	DV+other	no-DV	F-statistic (design-corrected X^2)
Demographic Factors				
Child age				2.28*
Age 0-2	33.5	22.7	19.6	
Age 3-5	26.8	30.1	22.4	
Age 6-10	18.3	27.1	28.2	
Age 11+	21.4	20.1	29.9	
Child race				3.25**
White	23.4	34.6	43.4	
Black	40.2	17.4	22.6	
Hispanic	29.3	39.8	26.4	
Other	7.1	8.2	7.7	
Child gender				4.66*
Female	55.3	60.9	48.0	
Male	44.7	39.1	52.0	
Risk Factors				
CW assessed risk level				6.27***
None	33.9	19.3	37.8	
Mild	41.6	28.4	33.4	
Moderate	19.7	30.9	20.9	
Severe	4.9	21.5	7.9	
CW assessed harm level				6.46***
None	42.8	27.7	50.5	
Mild	37.7	30.3	29.6	
Moderate	16.8	32.8	15.3	
Severe	2.7	9.1	4.6	
CG intellectual/cognitive impairment	1.4	3.7	3.1	0.59
CG physical impairment	2.1	1.1	4.7	10.76***
Poor parenting	4.5	19.8	20.3	8.49***
CG substance abuse	4.9	18.5	11.9	3.47*
CG serious MH problem	6.2	24.4	13.9	6.08**
Recent CG arrest	12.6	26.4	12.8	7.8**
Hx of maltreatment of CG	16.2	25.4	20.1	1.88
Financial difficulty	17.8	39.8	22.6	8.06***
Low family support	26.4	27.8	24.3	0.39
High stress in family	48.8	66.2	49.2	5.49**

Previous CPS reports	53.8	57.6	60.0	0.43
CG cooperation with CPS	91.8	87.0	92.4	2.8
Case Outcomes				
Substantiation	38.3	52.2	22.5	28.92***
Service provision	27.2	36.0	27.6	1.9
Out-of-home placement	4.1	10.5	13.5	5.61**

CW= caseworker; CG=caregiver; MH=mental health

*p<0.05

**p<0.01

***p<0.001

Demographic variables. All three of the demographic variables that were tested for associations with the comparison groups showed statistically significant differences between groups.

Child age. The presence of DV at intake is associated with younger child ages. These differences are readily seen in Figure 4.8, which shows that children age 0-5 comprise a majority of the DV-only cases (60%) and DV+other cases (53%). In contrast, the no-DV group is comprised largely of children age 6 and older (58%).

Figure 4.8: Associations between child age and DV as an alleged abuse type
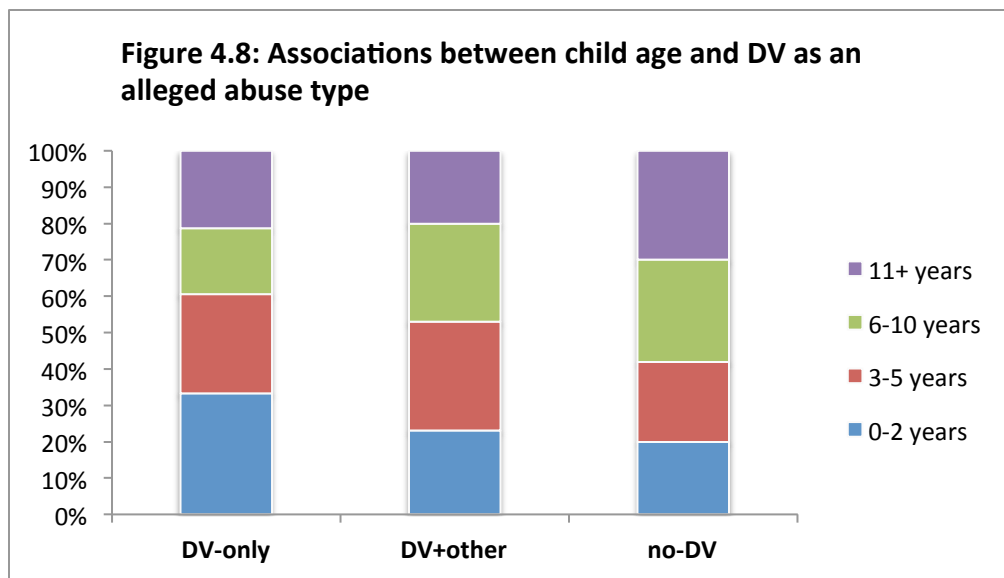
Child race/Hispanicity. There are large and significant differences by child race across the three groups of cases. These differences are summarized graphically in Figure 4.9, which depicts the racial composition of all three groups and the full weighted sample (all groups combined) for comparison. In the DV-only group, Black children comprise the majority of cases (40%), which is disproportionate to their representation in the full

weighted sample (23%). In contrast, Black children make up only 17 percent of the DV+other group, while Hispanic children are overrepresented at 40 percent of the group composition (compared to 28% representation in the full weighted sample). The no-DV group is primarily comprised of White children (43%), but as is easily observed in comparing the no-DV group with the full sample in Figure 4.9, the proportions of the race categories in this group align most closely with their proportions in the full weighted sample. Possible reasons for racial imbalances among comparison groups will be discussed in Chapter 5.

Figure 4.9: Associations between child race/ethnicity and DV as an alleged abuse type
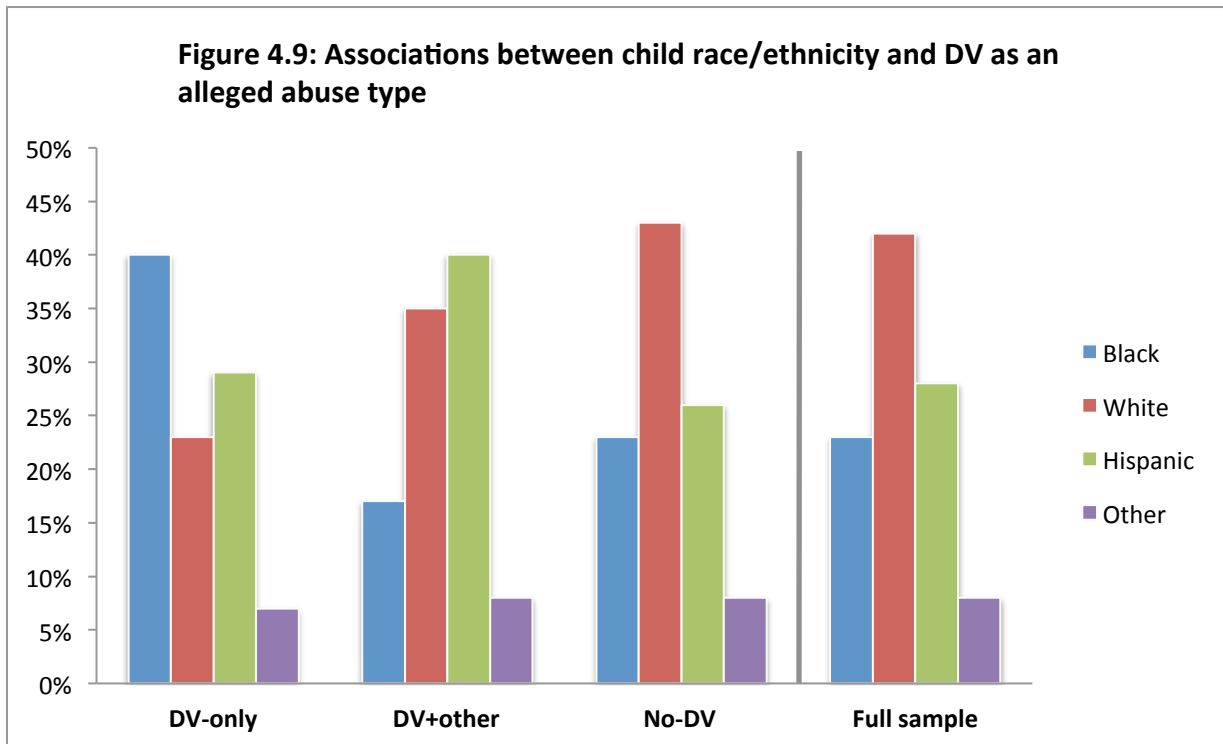
Child gender. Girls are overrepresented at a statistically significant level in both DV-referred groups, representing 55 percent of the DV-only group and 61 percent of the DV+other group. The no-DV group is more evenly distributed between girls and boys (48% and 52%, respectively).

Risk variables. The majority of the risk variables tested in cross-tabulations with the three comparison groups showed significant differences across groups. As documented in Table 4.3, the risk factors that did *not* have significant associations with the three allegation groups are: prior CPS reports, caregiver cognitive impairment, history of maltreatment of the caregiver, caregiver cooperation with the CPS investigation, and low family support.

For the majority of risk variables that were significantly associated with the comparison groups, a pattern emerged in which the DV-only group had the lowest

proportion of risk factors, the DV+other group had the highest proportion, and the no-DV group fell somewhere in the middle. This pattern can most easily be seen graphically in Figure 4.10. Each of these risk factors is clearly highest in the DV+other group, except poor parenting, where the proportions are equal for DV+other and no-DV. For most of these factors, DV-only has the lowest proportion of the three groups, except caregiver arrest history and high stress, where the DV-only and no-DV groups have similar proportions. In addition to the statistically significant associations displayed graphically in Figure 4.10, two other risk variables – caregiver cognitive impairment and history of maltreatment of the caregiver - followed the same risk pattern (lowest in DV-only, highest in DV+other) but did not attain statistical significance in their associations. On balance, it seems clear that the presence of many concurrent risk factors in DV-referred cases is related to whether DV is alleged alone with other maltreatment types.

Figure 4.10: Distribution of selected risk variables by DV as an alleged abuse type
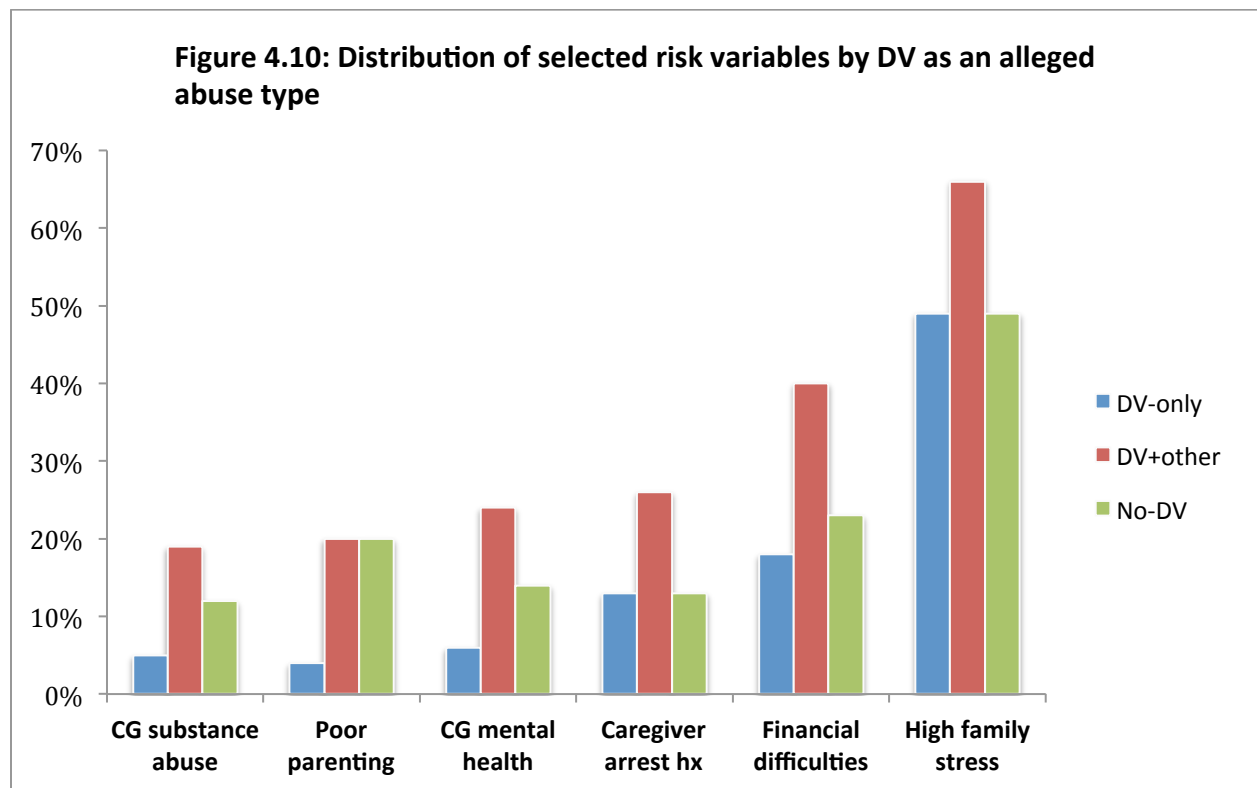
The only two significantly associated variables that did not follow this risk pattern are caregiver physical impairment (DV-only: 2.1%, DV+other: 1.1%, no-DV: 4.7%) and caseworker assessment of poor parenting. In the case of the latter variable (displayed in Figure 4.10), it is noteworthy that the DV-only group still had a far smaller proportion of yes responses to this item than either of the two other groups (4.5% in the DV-only group vs. 20% in both DV+other and no-DV).

Case outcomes. The proportions of the three outcome variables – substantiation, service provision, and out-of-home placement – have markedly different patterns across

allegation groups. As illustrated in Figure 4.11, both DV-referred allegation groups have significantly higher rates of substantiation than the no-DV group. As might be expected based on the high proportions of risk factors in the DV+other group, the highest substantiation rate (52%) occurs in this group.

However, despite these risk patterns, the high rate of substantiation in the DV-referred groups does not translate to higher rates of service provision. In fact, though the DV+other group does have the highest rate of service provision (36% compared to 27% in DV-only and 28% in no-DV), the differences between the three allegation groups are not statistically significant, meaning that all three groups are equally likely to receive services despite the significant disparities in substantiation rates.

The outcomes trend is further complicated when examining the rate of out-of-home placement, the most intensive intervention that can be applied to a CPS case upon investigation. Despite the high rates of substantiation for DV-referred cases compared to no-DV cases and the equal rates of service provision among these three groups, cases in both DV-referred groups are significantly less likely to result in out-of-home placement than the no-DV group. Multivariate analysis in the subsequent section will examine whether these associations between DV allegation groups and case outcomes hold after controlling for risk and demographic factors.

Figure 4.11: Case outcomes by DV as an alleged abuse type
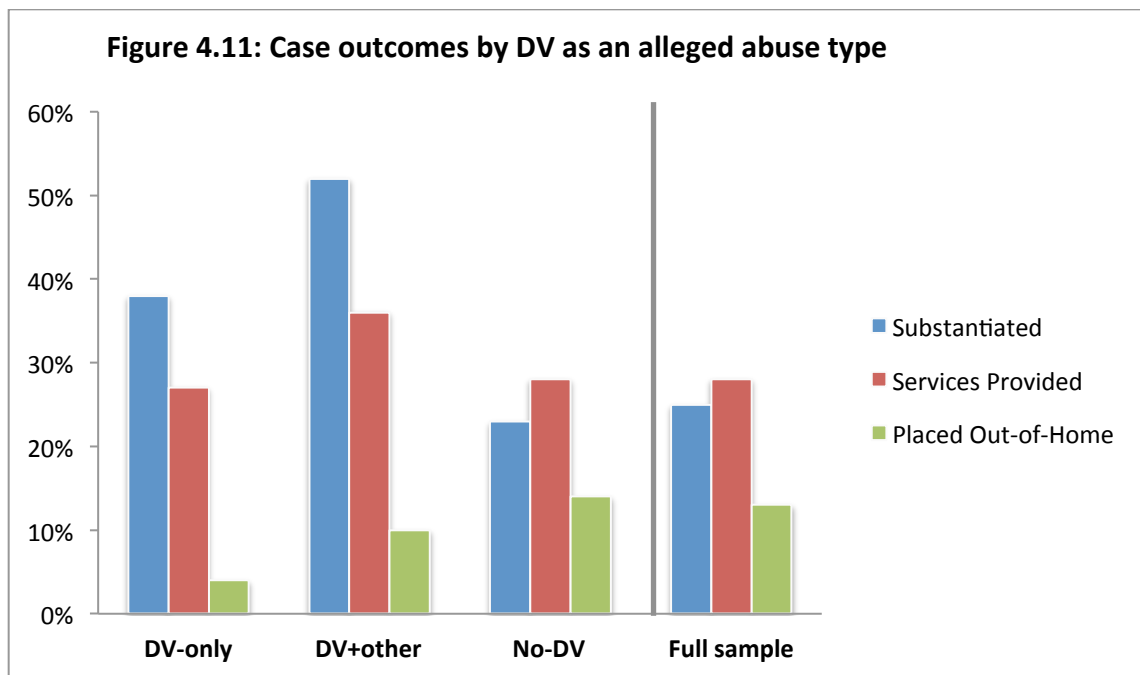
4.3 Research Question 2: Multivariate Logistic Regression

Is the presence of DV as a maltreatment allegation an independent predictor of key child welfare outcomes after controlling for demographic and risk variables?

The second research question of the current study aims to determine whether DV as an intake allegation is a predictor of the three key child welfare outcomes of interest. Logistic regression (using weighted data) was utilized as the appropriate method for answering this research question. In three subsequent subsections, the regression results for each separate outcome are reported, followed by a summary combining results into a single composite table for clear comparisons of predictors across outcomes.

4.3.1 Substantiation. As the first step of the logistic regression modeling process, all of the independent variables (as described in Chapter 3) were regressed individually on the substantiation outcome in univariate logistic models to test for significance at an elevated level of $\alpha = 0.20$. The only two variables that were not significant in univariate modeling were child special needs and child race. Child special needs was not included in the saturated multivariate model. Child race was retained in the multivariate modeling process despite the lack of association with the outcome because it is a conceptually important variable given the current and growing research interest in racial disparities in child welfare outcomes.

The first (saturated) multivariate model was fit with substantiation as the dependent variable, and all variables except child special needs (and history of maltreatment of the caregiver, due to a high proportion of missing data in this variable) as predictor variables. After the saturated model was fit, the least significant variables in the model were removed one at a time based on the highest p-values. Exceptions were made to the removal process for variables that were deemed conceptually important (specifically, demographic variables, financial difficulty, and previous CPS reports) despite whether they attained statistical significance. Child race and child gender were retained due to their importance as demographic control variables, and because both were significantly associated with the outcomes in bivariate analysis. Financial difficulty was considered vital to the analysis as a crude proxy for poverty (a known correlate of child welfare outcomes) since the more robust categorical household poverty variable had to be excluded from the analysis because it was based on caregiver report (see Chapter 3). Previous CPS reports was retained as a variable because of the strong association between this factor and case substantiation in prior research (for example, English et al., 2002).

There were eight total model iterations before all variables (except the conceptually-retained ones as documented above) were statistically significant at $\alpha = 0.05$. The adjusted Wald F-statistics for all models had associated p-values of <0.001, suggesting that all models tested had one or more parameters significantly contributing to the prediction of the outcome. However, the A-L goodness of fit test showed a maximized fit between the observed and predicted outcome frequencies in Model 4. In fact, Model 4 was the only model in which the A-L goodness-of-fit test statistic p-value fell in the range (p>0.05) which would result in a failure to reject the null hypothesis that the model fits the

data well. In other words, all models *except* Model 4 showed evidence of a lack of fit between the model and the data. This may indicate that there are additional variables that are not included in this analysis that may contribute significantly to the substantiation outcome.

Nonetheless, the results of the A-L goodness-of-fit test indicate that Model 4 *does* adequately fit the observed data, and thus Model 4 was the clear selection for the final model that maximized statistical fit with the fewest variables. The variables removed from the saturated model in the second and third iterations (due to insignificance and lack of contribution to model fit) were caregiver physical impairment and high family stress. All other variables were retained from the saturated model and are reported below in the regression results for the final selected model.

Interaction terms. The next step of the modeling process called for testing conceptually plausible interaction terms in the final model. Interaction terms were selected to further explore the multiplicative effect of certain variables of interest. Two variables that were not significant in any substantiation regression model – Black child race and presence of prior CPS reports - were of particular interest since prior research has indicated that these factors may predict substantiation (Dettlaff et al., 2011; English et al., 2002) . Thus, model terms were created interacting these variables with each other, and with each of the DV predictor variables to see if their combined presence in the model would produce significant odds ratios or change main effects. In addition, an interaction term was created for caregiver substance abuse and both DV predictor variables due to the complex relationship between DV and substance abuse widely discussed in the literature (e.g., Bennett, 1995; Kaufman Kantor & Straus, 1989).

The results of the univariate and multivariate regressions of the interaction terms on the substantiation outcome are presented in Table 4.3. In the univariate (unadjusted) analysis, many of the interaction terms are significant. A few of the interaction variables have very high odds ratios, particularly the terms interacting substance abuse and the DV allegation groups, though the confidence intervals are also exceptionally wide on those parameters. Due to the statistical significance of the univariate findings, all of these terms *except* Black*prior reports (which was not significant even at an elevated level of α=0.20) were added to the final logistic regression model selected after the stepwise model building process.

As evident in Table 4.3, though many of these interaction terms are significant in univariate analysis, when added to the multivariate model, none of them attained statistical significance at a level of α=0.05, and only two were even significant at an elevated threshold of α=0.20. The interaction term representing DV-only*Black approached but did not attain significance (OR=.34, p=.07, 95% CI: 0.10, 1.11) in the multivariate model.

Table 4.4.: Regressions of selected interaction terms on substantiation outcome

	Odds of substantiation					
	Unadjusted (univariate)			Adjusted (in multivariate model)		
	OR	p-value	95% CI	OR	p-value	95% CI
DV-only*Black	1.37	0.24	.81, 2.32	0.34	0.07	.1, 1.1
DV+other*Black	2.85	0.04	1.07, 7.62	0.91	0.91	.15, 5.6
DV-only*substance abuse	11.6	0.005	2.13, 63.15	3.1	0.34	.71, 13.6
DV+other*substance abuse	24.43	<0.001	7.5, 79.53	3.1	0.13	.71, 13.6
DV-only*prior CPS reports	2.4	0.01	1.22, 4.73	1.4	0.55	.46, 4.3
DV-plus*prior CPS reports	5.44	<0.001	3.03, 9.78	2.26	0.20	.64, 7.96
Black*prior CPS reports	1.15	0.33	.86, 1.54	–	–	–

In addition to the lack of statistical significance for any of the interaction terms in the multivariate model, the A-L goodness-of-fit test for the model with the interaction terms produced problematic results. The A-L goodness-of-fit test of the final model with interaction produced a p-value (p=0.48) below the cutoff for concluding adequate model fit, indicating evidence of poor fit in the model with interaction. In other words, not only are the interaction terms not statistically significant in multivariate analysis, they *also* decreased the fit of the model to an unacceptable range, indicating lack of contribution of the interactions to the prediction of the outcome. This provided clear justification for the removal of the interaction terms from the final multivariate model.

Results of logistic regression on substantiation. Having tested and removed the interaction terms, the final results for the selected logistic regression model for the substantiation outcome are presented in Table 4.4. For comparison, the left side of the table displays the univariate (unadjusted) odds ratios for the variables that were included in the final analysis. The right side presents the results of the multivariate logistic regression, which are discussed below by predictor type.

Table 4.5.: Factors predicting case substantiation

	Odds of Substantiation			
	Unadjusted		Adjusted	
Predictor	OR	95% CI	OR	95% CI
DV as maltx allegation				
No-DV	baseline		baseline	
DV-only	1.89**	1.2, 3.0	3.66***	2.04, 6.56
DV+other	3.62***	2.35, 5.57	2.86**	1.71, 7.55
Child age				

Age 0-2	baseline		baseline	
Age 3-5	0.96	.72, 1.28	0.66	.41, 1.07
Age 6-10	0.65***	.52, .81	0.65	.42, 1.00
Age 11+	1.03	.75, 1.4	1.06	.68, 1.65
Child race				
White	baseline		baseline	
Black	1.07	.8, 1.45	1.04	.72, 1.5
Hispanic	1.14	.8, 1.63	0.81	.51, 1.31
Other	0.98	.67, 1.43	0.73	.39, 1.34
Child gender				
Female	baseline		baseline	
Male	1.23	.92, 1.63	1.34	.94, 1.9
Previous CPS reports	1.35*	1.01, 1.8	1.01	.77, 1.31
Financial difficulty	2.70***	1.77, 4.12	1.38	.9, 2.11
CW assessed risk level				
None	baseline		baseline	
Mild	0.56***	.41, .76	1.57	.96, 2.57
Moderate	4.53***	3.39, 6.06	3.89***	2.21, 6.84
Severe	10.12***	5.37, 19.09	5.68***	2.3, 14.07
CW assessed harm level				
None	baseline		baseline	
Mild	1.19	.84, 1.68	3.57***	2.22, 5.74
Moderate	6.25***	4.49, 8.69	7.31***	4.8, 11.13
Severe	12.13***	7.49, 19.66	9.48***	4.58, 19.63
CG intellectual/cognitive impairment	5.5***	2.85, 10.6	4.01**	1.65, 9.74
CG substance abuse	4.53***	3.04, 6.75	1.88**	1.17, 3.00
Recent CG arrest	2.07***	1.62, 2.66	1.10	.73, 1.64
CG serious MH problem	3.16***	2.2, 4.54	0.73	.48, 1.18
CG cooperation with CPS	0.55**	.37, .82	1.61	.9, 2.87
Poor parenting	5.53***	3.93, 7.8	2.84***	1.87, 4.31

n=4,029   *p<0.05

Adjusted Wald test for all parameters: $F(23,50)=18.41$, p<0.001   **p<0.01

A-L GOF F-adjusted test statistic=1.896, p=0.068   ***p<0.001

DV as an abuse allegation. Consistent with bivariate findings, the DV-only and DV+other groups both have significantly higher crude and adjusted odds of substantiation compared to the no-DV group. However, in the adjusted model that controls for demographic and risk variables, DV-only emerges as the stronger predictor of substantiation. Cases in which DV is the only alleged abuse type have more than 3.5 times greater odds of substantiation (p<0.001) than cases that do not have DV as an alleged

abuse type when controlling for demographics and risk factors. Cases in the DV+other group have slightly lower odds of substantiation than DV-only cases, but still almost 3 times greater odds of substantiation than no-DV cases (p<0.01). These findings suggest that the presence of DV as a maltreatment allegation is in fact a strong independent predictor of case substantiation.

Demographic variables. Child race, gender, and age were all unassociated with substantiation in multivariate analysis. No demographic factors emerged as significant predictors of substantiation. In comparing crude to adjusted odds ratios, the single significant unadjusted finding (that children age 6-10 have 65% lower odds of substantiation than children age 0-2) lost statistical significance in the adjusted model. Though the odds ratio for that indicator remained unchanged, the loss of precision associated with multivariate analysis widened the confidence interval to contain 1.

Risk variables. Many risk variables emerged as significant predictors of substantiation. Caseworker assessments of harm and risk levels are strongly predictive of substantiation. Each level above an assessment of *none* for risk and harm (i.e., *mild, moderate,* and *severe*) is associated with a large increase in odds of substantiation. At the highest end of each scale, a *severe* rating of risk is associated with more than 5.5 greater odds of substantiation (p<0.001) and a *severe* rating of harm is associated with almost 9.5 greater odds of substantiation (p<0.001) than a rating of *none* on these respective measures.

Other risk factors that significantly predict substantiation are caregiver cognitive impairment, caregiver substance abuse, and caseworker assessment of poor parenting. Each of these factors were significant in both crude and adjusted models, though their odds ratios were all somewhat attenuated in the multivariate model. Several risk variables, including prior CPS reports, financial difficulty, recent caregiver arrest, and caregiver mental health problems significantly predicted increased odds of substantiation in the unadjusted models, but had reduced odds ratios that lost significance in the multivariate model.

Only one variable had a crude effect size that switched direction in the adjusted model. Caregiver cooperation with CPS was associated with significantly *lower* odds of substantiation in univariate analysis, but when placed in the multivariate model, this variable predicted *higher* odds of substantiation, though the association was not statistically significant (p=.11). No variables that were insignificant in the unadjusted models gained significance in the adjusted model.

Substantiation summary. Consistent with the findings of the bivariate analysis, cases alleging DV were significantly more likely to result in substantiation than cases only alleging other maltreatment (no-DV), even after controlling for demographics and risk factors. Aside from allegation type, caseworker assessments of risk and harm emerged as strong predictors of substantiation. A few caregiver-level risk factors – cognitive impairment, substance abuse, and poor parenting skills - were also predictive of substantiation in multivariate analysis.

4.3.2 Service Provision

For the next two outcome variables, starting with service provision, the systematic model building process described above was not repeated. Rather, the variables selected using the Hosmer-Lemeshow method for the substantiation outcome were carried forward *a priori* for the service provision and out-of-home placement regression procedures.

The primary reason that new models were not fit for the second two outcome variables is so that the same variables would be tested in all three regressions, thus enabling the comparison of findings across outcomes. The Archer-Lemeshow goodness-of-fit test was applied to ensure that the same model used for the substantiation outcome was an adequate fit for the subsequent outcomes. As will be reported in the results for the service and placement outcomes, the A-L tests show that the selected regression model actually fits these subsequent outcomes much better than the substantiation outcome. These test findings served as confirmation that the model selected via the systematic process of the substantiation section is an excellent fit with the outcome variables that follow.

The results of the logistic regression analysis for the outcome variable indicating whether a family received services as a result of CPS involvement are summarized in Table 4.5.

Table 4.6.: Factors predicting service provision

| Predictor | Odds of receiving services | | | |
| | Unadjusted | | Adjusted | |
	OR	95% CI	OR	95% CI
DV as maltx allegation				
No-DV	baseline		baseline	
DV-only	0.95	.52, 1.74	1.28	.67, 2.43
DV+other	1.48	.99, 2.2	1.08	.68, 1.7
Child age				
Age 0-2	baseline		baseline	
Age 3-5	0.67**	.52, .86	0.66*	.46, .94
Age 6-10	0.86	.66, 1.12	0.94	.67, 1.31
Age 11+	1.36**	1.09, 1.7	1.65**	1.15, 2.37
Child race				
White	baseline		baseline	
Black	0.87	.54, 1.4	1.08	.62, 1.89
Hispanic	1.65*	1.02, 2.66	1.67	.88, 3.2
Other	0.91	.64, 1.29	0.91	.44, 1.84
Child gender				

Female	baseline		baseline	
Male	1.1	.91, 1.33	0.98	.78, 1.22
Previous CPS reports	1.35	.98, 1.86	1.11	.78, 1.6
Financial difficulty	1.88***	1.33, 2.65	1.45*	1.05, 2.01
CW assessed risk level				
None	baseline		baseline	
Mild	0.58***	.42, .71	0.8	.54, 1.19
Moderate	2.01***	1.47, 2.75	1.35	.83, 2.18
Severe	4.31***	2.63, 7.06	2.14*	1.04, 4.38
CW assessed harm level				
None	baseline		baseline	
Mild	0.91	.7, 1.18	1.23	.88, 1.71
Moderate	2.28***	1.62, 3.2	1.63*	1.1, 2.4
Severe	4.7***	2.98, 7.43	2.38*	1.2, 4.74
CG intellectual/cognitive impairment	2.15*	1.12, 4.15	1.13	.64, 1.97
CG substance abuse	2.82***	1.92, 4.16	2.11***	1.43, 3.11
Recent CG arrest	1.39*	1.03, 1.87	0.7*	.51, .96
CG serious MH problem	2.27***	1.56, 3.3	1.1	.73, 1.7
CG cooperation with CPS	0.54**	.35, .85	0.81	.49, 1.32
Poor parenting	3.31***	2.33, 4.69	1.52*	1.01, 2.29

n=4,107	*p<0.05
Adjusted Wald test for all parameters: $F(23,50)=7.24$, p<0.001	**p<0.01
A-L GOF F-adjusted test statistic=0.306, p=0.97	***p<0.001

The A-L goodness-of-fit test statistic has a p-value (p=.0.97) that suggests an excellent fit of the model with the observed data, indicating that the expected probabilities predicted by the model are a close fit with the observed probabilities of the weighted sample. The associations of the model parameters with the service provision outcome are discussed below by variable category.

DV as an abuse allegation. The bivariate findings that DV-referred cases were no more likely to receive services than no-DV cases were upheld in regression analysis that controlled for demographic and risk variables. The odds ratios for the DV-only and DV+other indicators were not statistically significant in the model, meaning that all three allegation groups are equally likely to receive services. The presence of DV as an abuse allegation does not predict service provision in this model.

Demographic variables. Divergent associations between service provision and two age indicators emerged in the regression analysis. Children age 3-5 have 66 percent *lower* odds (p=.02) while children over age 10 have 65 percent *higher* odds (p=.007) of receiving services compared to children age 0-2. Similar odds ratios for both of these variables were found in both unadjusted and adjusted models.

There were no significant differences in likelihood of service provision by child race or gender. In univariate analysis, Hispanic children were significantly (OR=1.65, p=.04) more likely to receive services than White children, but although the odds ratio stayed stable, this association lost significance in the adjusted model.

Risk variables. Consistent with findings on substantiation predictors, higher levels of assessed risk and harm are positively associated with the likelihood of service provision. Among the risk indicators, a case with a *severe* risk rating is associated with more than twice the odds (p=.04) of receiving services than cases with a risk rating of *none*. Among the harm indicators, both *moderate* and *severe* levels predict service provision. Several other risk and harm indicators were significant in the unadjusted models but were attenuated to non-significance in the multivariate model.

Examining the other risk factors, caregiver substance abuse is one of the strongest predictors in the model, associated with more than two times the odds (p<0.001) of service provision compared to cases in which caregiver substance abuse was not identified as a problem. Assessment of poor parenting skills and caseworker report of financial difficulty are each associated with about 1.5 greater odds of receiving services. Only one risk factor – history of recent caregiver arrest – was negatively associated with service provision at a statistically significant level (OR=0.7, p=.03) in the multivariate analysis. Several of the risk factors that were associated with service provision in the unadjusted analysis lost significance in the adjusted model, including caregiver cognitive impairment, caregiver mental health problems, and caregiver cooperation with CPS.

Service provision summary. In contrast to the results of the substantiation analysis, the presence of DV as an alleged abuse type does not predict whether a CPS case receives services. Except for some modest differences by age group, demographic factors also do not appear to be substantially associated with service provision. Rather, this outcome seems primarily driven by variables related to risk assessment. In particular, caregiver substance abuse and high levels of harm and risk emerged as the strongest predictors of service receipt in the multivariate analysis.

4.3.3 Out-of-Home Placement

As described in the previous section, the same variables used in the regression models for the previous two outcomes were used in the regression model for the final outcome of interest, out-of-home placement. This outcome variable indicates whether at the end of the CPS investigation, the subject child had been placed in an out-of-home setting such as kinship or foster care. The results of this final regression analysis are summarized in Table 4.5 and discussed below.

Table 4.7.: Factors predicting out-of-home placement

Predictor	Odds of OOH placement			
	Unadjusted		Adjusted	
	OR	95% CI	OR	95% CI
DV as maltx allegation				
No-DV	baseline		baseline	
DV-only	0.28*	.1, .74	0.32	.09, 1.12
DV+other	0.77	.53, 1.13	0.43***	.28, .68
Child age				
Age 0-2	baseline		baseline	
Age 3-5	0.82	.6, 1.13	0.86	.58, 1.27
Age 6-10	0.83	.61, 1.12	1.12	.73, 1.72
Age 11+	1.32*	1.1, 1.72	1.63*	1.002, 2.64
Child race				
White	baseline		baseline	
Black	1.46*	1.1, 1.95	1.65*	1.03, 2.64
Hispanic	0.98	.62, 1.55	1.21	.66, 2.25
Other	0.74	.44, 1.23	0.54	.24, 1.22
Child gender				
Female	baseline		baseline	
Male	0.99	.77, 1.27	1.01	.64, 1.6
Previous CPS reports	1.89***	1.39, 2.57	1.30	.88, 1.9
Financial difficulty	1.94**	1.31, 2.85	1.16	.61, 2.22
CW assessed risk level				
None	baseline		baseline	
Mild	0.66	.44, 1.0	0.78	.39, 1.55
Moderate	1.34	.95, 1.9	0.81	.43, 1.51
Severe	5.7***	3.88, 8.37	2.3*	1.27, 4.2
CW assessed harm level				
None	baseline		baseline	
Mild	1.17	.8, 1.71	1.92	.98, 3.77
Moderate	1.86**	1.27, 2.73	1.97*	1.11, 3.49
Severe	6.6***	4.63, 9.4	3.4***	1.94, 6.0
CG intellectual/cognitive impairment	3.25***	1.82, 5.8	1.44	.78, 2.65
CG substance abuse	4.55***	2.97, 6.99	2.08**	1.3, 3.33
Recent CG arrest	2.68***	1.71, 4.22	1.23	.82, 1.84
CG serious MH problem	3.00***	1.99, 4.52	1.07	.75, 1.54
CG cooperation with CPS	.33***	.23, .48	0.54**	.35, .83

Poor parenting	4.55***	3.3, 6.28	1.75**	1.21, 2.51

n=4,107	*p<0.05
Adjusted Wald test for all parameters: *F*(23,50)=18.52, p<0.001	**p<0.01
A-L GOF *F*-adjusted test statistic=0.154, p=0.998	***p<0.001

The A-L test for goodness-of-fit supports the conclusion that the selected model is an excellent fit of observed data (p>0.99). The null hypothesis that the expected probabilities generated by the model do not fit the observed frequencies in the sample is clearly rejected, and thus there is evidence that the findings produced by the model are plausible in the target population. The results from the regression analysis are discussed below by variable type.

DV as an abuse allegation. Consistent with the results of the bivariate analysis, the odds ratios for the primary independent variable indicators reversed direction in their relationship to this outcome compared to the substantiation and service outcomes. Both indicators are negatively associated with this outcome, though only the DV+other indicator is statistically significant, with 43% lower odds (p<0.001) of out-of-home placement compared to cases without DV as an alleged abuse type. Though the DV-only indicator has an even lower odds ratio (0.32), it approached but did not attain statistical significance in the multivariate analysis (p=.08). Thus, rather than being predictive of out-of-home placement, this analysis suggests that the presence of DV as an abuse allegation is protective of out-of-home placement after controlling for demographic and risk factors.

Demographic variables. Child race was not a significant variable in multivariate analysis for either of the two prior outcomes. However, a significant association by race emerged in the analysis for out-of-home placement. After controlling for all other variables, Black children have 1.65 greater odds (p=0.04) of being placed out-of-home than White children. No significant differences emerged for any other race category.

In regard to the age categories, the analysis indicates that children age 11 and older are significantly more likely to be placed out-of-home than children age 0-2 (OR=1.63, p=0.049). This is consistent with the finding that cases involving children in this age category are also more likely to result in service provision. Both boys and girls were equally likely to be placed out-of-home.

Risk variables. The same general pattern of risk predictors are seen with the out-of-home placement variable as with the previous two outcomes. Caseworker risk ratings of *severe* and harm ratings of *moderate* or *severe* are all predictors of out-of-home placement, with a *severe* harm rating emerging as the strongest predictor in the model (OR=3.4, p<0.001). Caregiver substance abuse and poor parenting skills also persist as strong predictors of this outcome, while caregiver cooperation with CPS is negatively associated with likelihood of out-of-home placement. Prior CPS reports and financial difficulty were

significant in unadjusted modeling, but odds ratios for both variables were attenuated to statistical insignificance in the multivariate model.

   Out-of-home placement summary. Though the presence of DV as an abuse type is a significant independent predictor of substantiation, and unassociated with whether a case receives services, the final regression analysis finds that cases with DV allegations have lower likelihood of resulting in out-of-home placement than cases without DV allegations. In addition, this model indicates that a racial disparity is present in the out-of-home placement outcome, with Black children significantly more likely than White children to be placed out-of-home even after controlling for multiple risk factors and other case characteristics.

4.3.4 Regression Summary

   In order to provide an easy method of examining the predictors across outcomes, Table 4.6 summarizes the results (odds ratios and significance indicators) of all three regression analyses. The confidence intervals are not reported here because they are documented in the tables for each outcome in their respective sections.

Table 4.8: Odds ratios for variables associated with key child welfare case outcomes

	Substantiation	Services	OOH placement
DV as maltx allegation			
No-DV	baseline	–	–
DV-only	3.66***	1.28	0.32
DV+other	2.86**	1.08	0.43***
Child age			
Age 0-2	baseline	–	–
Age 3-5	0.66	0.66*	0.86
Age 6-10	0.65	0.94	1.12
Age 11+	1.06	1.65**	1.63*
Child race			
White	baseline	–	–
Black	1.04	1.08	1.65*
Hispanic	0.81	1.67	1.21
Other	0.73	0.91	0.54
Child gender			
Female	baseline	–	–
Male	1.34	0.98	1.01

Previous CPS reports	1.01	1.11	1.30
Financial difficulty	1.38	1.45*	1.16
Level of assessed risk			
None	baseline	–	–
Mild	1.57	0.8	0.78
Moderate	3.89***	1.35	0.81
Severe	5.68***	2.14*	2.3*
Level of assessed harm			
None	baseline	–	–
Mild	3.57***	1.23	1.92
Moderate	7.31***	1.63*	1.97*
Severe	9.48***	2.38*	3.4***
CG intellectual/cognitive impairment	4.01**	1.13	1.44
CG substance abuse	1.88**	2.11***	2.08**
Recent CG arrest	1.1	0.7*	1.23
CG serious MH problem	0.73	1.1	1.07
CG cooperation with CPS	1.61	0.81	0.54**
Poor parenting	2.84***	1.52*	1.75**

  *p<0.05

  **p<0.01

***p<0.001

      Taken in sum, the three regression analyses of this study indicate that while some variables are stable predictors across outcomes (e.g., caregiver substance abuse, assessments of high levels of risk and harm, poor parenting skills), there are also substantial differences in the factors associated with these outcomes. In particular, the difference in the relationship of the key independent variable to the three outcomes is of central importance to the research aims of this study. In Chapter 5, these findings, in addition to the findings of the bivariate analysis, will be discussed in terms of possible interpretations, and implications for policy, practice, and future research.

Chapter 5: Discussion

In this final chapter, key findings of this study will be reviewed, synthesized and interpreted, addressing the potential explanations and implications of the results. Mirroring the presentation of the findings in Chapter 4, the discussion will start with the descriptive statistics, focusing on an analysis of why the three DV allegation groups comprising the key independent variable are so unbalanced in size. Next, the major findings of the study's two research questions will be interpreted and discussed. The limitations of the study will be documented in the subsequent section. Finally, the chapter will end with a summary of possible policy and practice implications of the results, as well as suggestions for future research and a brief conclusion.

5.1 Descriptive Findings

The key independent variable for this study is whether DV was present as an alleged abuse type in the CPS intake referral that initiated the investigative response among NSCAW II cases. One of the early somewhat surprising findings of this study was that the distribution of cases by allegation type is heavily skewed toward cases with no DV allegations. Because the expansion of CPS intervention to include DV-referred cases has been frequently discussed in child welfare literature in recent years (Bragg, 2003; English, Edleson, & Herrick, 2005; Friend, Shlonsky & Lambert, 2007; Hazen et al., 2004; Mills et al., 2000; Nixon et al., 2007; Weithorn, 2001), and because anecdotal discourse among CPS caseworkers has suggested that DV-referred cases have been consistently increasing, the total proportion of DV-referred cases (14% total in the raw sample, 11% total in the weighted sample) in the NSCAW II study seems unexpectedly low.

There are a number of explanations for why this might be the case. One such explanation is that the wording of the question about alleged abuse in the caseworker interview, coupled with the large number of response options, produced an undercount of cases in which DV was an actually an alleged abuse type in the CPS intake report. To reiterate from Chapter 3, the item regarding alleged abuse type on the caseworker instrument states: "Tell me the type or types of abuse or neglect reported on [REPORT INTAKE DATE]" (NSCAW II, 2010a, question C_AA1a). The response options to this question are:

18. Physical maltreatment
19. Sexual abuse
20. Emotional abuse
21. Physical neglect
22. Neglect
23. Abandonment
24. Moral/legal maltreatment
25. Educational maltreatment
26. Exploitation (e.g., sale of minor's time or behavior)
27. Other

28. Prematurity or low birth weight
29. Substance exposure (e.g., born with drugs in system)
30. Domestic violence
31. Substance-abusing parent
32. Voluntary relinquishment
33. Children in need of services (CHINS)
34. Investigation/report was only way to get needed services for family

The reason that this question might not produce an accurate count of cases referred to CPS for DV allegations is related to the way abuse and neglect allegations are defined and coded in state statutes and administrative databases. Only one state (Alaska) actually includes domestic violence exposure as a statutory type of maltreatment in its legal definitions of abuse and neglect (Zink et al., 2004). Other states respond to CPS reports of DV exposure by subsuming them under an existing statutory category of maltreatment. To illustrate with a few examples, California captures DV exposure allegations as *emotional abuse* in CPS reports and official state records, while Texas documents DV exposure as *risk of physical abuse* (for violent perpetrators) or *neglectful supervision* (for "non-protective" parent victims of violence) in its CPS reports and administrative records, and Iowa categorizes DV allegations as *supervisory neglect*. With this in mind, it is not a stretch to think that, given a choice of alleged abuse types to select from in the NSCAW II interview, some caseworkers might have selected the *official* allegation type listed in the intake report for cases involving DV allegations instead of selecting the domestic violence response option, thus producing "false negatives" in the DV-only group. While there is no way to verify whether or to what extent this is true in the NSCAW II sample, it seems a reasonable potential scenario that could lead to true DV-referred cases being under-identified. If this is the case, it is also a limitation of this study, since it would suggest diffusion among the three comparison groups of interest, as well as low reliability and validity of the interview item used to create the key independent variable.

Another, more verifiable, reason that the total sample proportion of DV-referred cases is relatively low is that the analysis of DV referrals by PSU (Figure 4.2) demonstrated that there is a great deal of variance among the 81 NSCAW II PSUs in terms of their individual proportions of DV-referred cases. This distribution suggests that there are likely substantial state and regional differences in the handling of cases referred for domestic violence exposure, and in fact some jurisdictions may not regard domestic violence exposure as a reportable maltreatment allegation at all. The impact of this variance on the generalizability of the findings is discussed as a study limitation in a subsequent section of this chapter.

5.2 Differences in CPS Cases by Presence of DV as an Alleged Abuse Type

The first research question of this study asked whether cases have different demographics, risk factors, and outcomes based on whether DV is present as an intake allegation. In fact, the analysis found that differences among the allegation groups are

substantial. The three comparison groups in the analysis (DV-only, DV+other, and no-DV) have very different profiles in relation to all variable types.

Demographics. Child age and child race/ethnicity are both associated with the DV allegation groups. The younger ages in the DV-referred groups may have several explanations. This may reflect that reporters are likely to consider younger children to be at greater risk as a result of DV exposure, and therefore are more likely to make CPS reports regarding DV when younger children are involved. However, it may also simply reflect the well-established finding that DV occurs with higher prevalence among younger couples (Schumacher et al., 2001; Straus, Gelles, & Steinmetz, 1980; Straus & Gelles, 1990), and younger parents are more likely to have younger children. In addition, couples with young children are likely to experience higher levels of stress than couples with no children or with older children (Cowan & Cowan, 2007).

In regard to the differential racial compositions of the allegation groups, the analysis found that Black children are substantially overrepresented in the DV-only group and Hispanic children are overrepresented in the DV+other group compared to their proportions in the full sample. The high proportion of Black children in the DV-only group may merely reflect that prior research has found a higher prevalence of DV among African-Americans compared to Whites in the U.S. population (e.g., Straus, Gelles & Steinmetz, 1980; Schumacher et al., 2001; Tjaden & Thoennes, 1999). While research has also shown that these racial differences may be moderated or even extinguished when contextual factors such as poverty, education, and/or neighborhood environment are controlled for (Benson et al., 2004; Johnson & Ferraro, 2000), there were no control variables in the cross-tabulation of race and DV allegation group that would demonstrate the moderating effects of these factors in bivariate analysis.

The overrepresentation of Hispanic children in the DV+other group is less readily explainable. Findings on prevalence of DV among Hispanics is mixed, with some research indicating that DV occurs with disproportionately high prevalence in Hispanic families compared to White families (Johnson, 2008; Straus & Gelles, 1990) and other research suggesting that Hispanic women are no more likely to experience domestic violence than non-Hispanic women or White women (Ellison et al., 2007; Tjaden & Thoennes, 1998). It is unclear whether there are underlying population differences that make Hispanic families more likely to experience multiple reportable CPS issues concurrently with DV, whether they are more likely to live in geographical areas where DV is considered a reportable circumstance for CPS intervention, or whether there is some other explanation that is not discernible from these data.

Another possible explanation is that the findings on differential racial composition in the allegation groups could be related to the variance in DV allegations by PSU, especially if this variance is driven by differences in local policies and practices. If, for example, the PSUs with higher proportions of DV+other allegations represent locations with larger Hispanic populations, this could inflate the proportion of Hispanic children in the DV+other group. While determining whether this is the case is outside the scope of the current study, it reflects a potential explanation worth consideration. Bivariate findings related to both

Black and Hispanic overrepresentation in the DV-only and DV+other groups respectively, should be viewed with caution since other underlying phenomena (e.g., poverty, neighborhood factors, immigration status) could explain the imbalances. Control variables added to the subsequent phase of the study provide more complete findings on potential racial disparities.

Risk variables. The major bivariate finding in regard to risk variables among the three allegation groups is that a strong pattern emerged in which key risk factors (including both risk-related caregiver characteristics and direct caseworker assessments of risk and harm) were most likely to be present in the DV+other group and least likely to be present in the DV-only group. Consistent with findings of prior research (Beeman, Hagemeister, & Edleson, 2001; Black et al., 2008), this suggests that the cumulative level of risk present in CPS cases may be related to whether DV is alleged concurrently with other maltreatment.

The risk-related findings associated with the group comparisons indicate that DV-only cases have clearly lower levels of risk factors than both other allegation groups, which is consistent with prior findings from the Canadian child welfare system (Black et al., 2008). Of *all* the risk variables in the study, only one single variable (caregiver physical impairment) did not have its lowest incidence in the DV-only group. On the other end of the spectrum, the DV+other cases have clearly higher levels of risk than the other two allegation groups. This held for almost every risk variable in the study, including financial difficulty, moderate/severe levels of risk and harm, caregiver cognitive impairment, caregiver substance abuse, recent caregiver arrest, history of caregiver maltreatment, caregiver mental health problems, poor parenting skills, high stress, and low support.

Case outcomes. The differential risks discussed above become very important when assessing findings on case outcomes by allegation group. The key finding from the bivariate analysis of differential case outcomes by group is that the risk patterns do not align with outcomes as one might predict. For example, while the very high level of risk factors and assessed risk in the DV+other group corresponds to the highest rate of substantiation (52%) of the three groups, this does not convert to a higher rate of service provision (all three groups are equally likely to receive services) nor does it translate to a higher rate of out-of-home placement, as the cases in this group are *less* likely to end in out-of-home placement than cases in the no-DV group.

Conversely, the very low comparative risk level of the DV-only group would suggest that this group might have lower rates of substantiation compared to the higher risk groups. However, the substantiation rate for this group (38%) is significantly higher than the no-DV group (23%) despite the much lower proportions of almost every single risk variable. It is also substantially higher than the full weighted sample rate of 25 percent. Cases in the DV-only group are also equally likely to receive services as the other groups despite having the lowest incidence of nearly risk factor in the analysis. This low risk fittingly corresponds to the lowest rate of out-of-home placement of the three groups (at only 4%), but this point raises a key question to emerge from this study: Why is the

substantiation rate for the DV-only group is so high given the relatively low risk level and out-of-home placement rate?

The complex and somewhat counterintuitive relationships between risk, substantiation, service provision, and out-of-home placement were explored further in the second half of the analysis and will be discussed again below in the context of the multivariate regression models.

5.3 Predictors of Case Outcomes

DV abuse allegations. The second phase of this study addressed the research question of whether DV as an alleged abuse type is an independent predictor of case outcomes after controlling for risk and demographic characteristics. Results for this question indicate that, while some factors are stable predictors across case outcomes, the DV-allegation independent variable has a very different relationship with each outcome after adjusting for demographic and risk factors.

Consistent with bivariate findings, DV as an abuse allegation is a strong predictor of substantiation even after controlling for risk factors and demographics. However, the increased likelihood of substantiation for DV-referred cases compared to no-DV cases does *not* result in a higher likelihood of service provision. Further, DV-referred cases are substantially less likely to end in out-of-home placement than cases with no DV allegations. The DV-referred groups have high comparative rates of substantiation, but equal rates of service provision, and lower rates of out-of-home placement. In other words, DV as an abuse allegation is *positively associated* with substantiation, but has no relationship with service provision, and is *negatively associated* with out-of-home placement.

This finding is difficult to interpret, especially given that the two DV-referred groups (DV-only and DV+other) have very different risk profiles, both in the direct assessment of risk by caseworkers, and in the likelihood of having a multitude of other risk factors present. Why do DV allegations (seemingly without regard to the disparate risk levels of DV-only and DV+other cases) predict substantiation but not further CPS intervention? Why are cases with DV allegations less likely to result in of out-of-home placement, even given the high comparative risk present in DV+other cases? What is influencing the decision-making of CPS personnel to substantiate DV-referred cases without concomitant levels of service provision or placement?

Applying findings from the research of Coohey (2007) might provide one reasonable interpretation of these results. In a single-county sample of DV-related case records (N=437) in a Midwestern U.S. state, Coohey found that actual or potential harm to a child was the key criterion used by caseworkers to substantiate DV *perpetrators* in cases alleging DV exposure, and caseworkers reliably substantiated cases when this criterion was met. In contrast, adult *victims* of DV in CPS cases (i.e., mothers) were only substantiated for child maltreatment if they were deemed to be unprotective of the child(ren). Importantly, the single criterion caseworkers used to determine whether a victim-parent was protective

was whether she ended all contact with the batterer upon (or before) the initiation of the CPS investigation. Children were only removed from victim-parents (all mothers) in 5 out of 437 cases, and in all 5 of those cases, the DV was extremely severe (placing the children at imminent risk of harm) *and* the mothers refused to end contact with their batterers or otherwise participate in safety planning.

In light of Coohey's findings, a possible interpretation of the current study is that the substantiations in DV-referred cases primarily involve DV *perpetrators*, who are likely not the primary caregivers of the subject children. In other words, in NSCAW II cases with DV allegations, it may be that caseworkers tended to substantiate allegations against the perpetrators of violence if it was confirmed that the child had been placed at risk of harm. This would explain the high rate of substantiations for DV-referred cases, because the mechanisms that are likely to bring DV cases to the attention of CPS (such as law enforcement or hospitals) are also likely to be able to provide corroboration that a DV incident occurred and that a child could have been (or was) harmed as a result. However, if upon CPS intervention, primary caregivers exhibited behavior deemed protective by ending contact with the batterer, this might explain why many substantiations did not result in services or out-of-home placement. In other words, if non-offending caregivers exhibited *protection* of their children (from the perpetrators whose behavior was substantiated for maltreatment) by ending contact with the batterer, caseworkers may have determined that there was no need for more intensive levels of CPS involvement, such as service provision or out-of-home placement.

Though Coohey's (2007) findings are limited in that they reflect the decision-making practices of caseworkers in a single CPS jurisdiction, they do provide the basis for a fitting explanation of the DV allegation trends seen across the three outcome variables for this study. It is an unfortunate limitation of the NSCAW II study that no information was collected on the identity of the perpetrators (including gender or relationship to the child) for involving DV allegations, so these data cannot be analyzed to determine whether there is evidentiary support for this interpretation of the findings. Nonetheless, this hypothesis - that substantiations are primarily against DV perpetrators who subsequently lose contact with the subject children, thereby ameliorating the need for further intervention – emerges as the most likely way to explain the findings of this study in relation to the key independent variable.

Child race. Moving from DV allegations to other variables in the multivariate analysis, another prominent finding is that while there were no significant effects on substantiation or service provision by race, a racial disparity emerged in the out-of-home placement outcome. After controlling for all other case characteristics, Black children have 65% greater odds of being placed out-of-home than White children.

The substantial overrepresentation of Black children in foster care is well established (Dezerotes & Poertner, 2005; CWIG, 2011), and is seen by some as evidence of system-level racial bias in the child welfare system (e.g., Roberts, 2002). However, research indicates that when poverty and other risk factors are controlled for, racial differences in likelihood of out-of-home placement disappear (Harris, Tittle & Poertner,

2005; Zuravin & DePanfilis, 1997) or even reverse (Putnam-Hornstein et al., 2013), suggesting that socioeconomic (i.e., poverty and risk) factors are the primary drivers of disproportionate entries to foster care by race.

However, this study found a significant difference in likelihood of out-of-home placement for Black children compared to white children, even when utilizing a control variable for poverty and a multitude of control variables related to risk. This finding suggests that race is a significant contributor to the out-of-home placement decision beyond the influence of disparate income and risk.

Though this is a significant and potentially important finding, it is also one that should be interpreted with considerable caution. While other studies have used crude (i.e., indirect/binary) proxies for poverty and still demonstrated the moderating effects on outcomes by race, the crude poverty proxy used in this study is different in that it is a completely *subjective* assessment by the caseworker. For example, in a recent study by Putnam-Hornstein and colleagues (2013) examining racial differences in child welfare case outcomes in California, the poverty proxy variable was whether a child received public health insurance (Medicaid) or not. While this is still a crude control variable because it is dichotomous and does not directly measure income, it is a variable with good reliability and validity because Medicaid is a means-tested program that uses a stable and uniform set of income-based criteria to determine eligibility. By contrast, the variable used in this study was based on caseworkers' subjective judgments of whether the family of the subject child had "trouble paying for basic necessities" at the time of the investigation. This source question was not based on an actual assessment of income or a uniform set of criteria for what might constitute financial difficulty, nor is it known how caseworkers determined their answers to this question. Thus, though the finding that Black children are more likely to enter foster care *may* indicate a legitimate cause for concern about differential CPS decision-making by race, it may also be that the income proxy used in the analysis is just too coarse and noisy to provide a reliable estimate. Other data sets that contain more valid measures of income/poverty are better equipped to produce valid and generalizable findings on whether racial differences in out-of-home placement are persistent even with socioeconomic controls.

Child age. Statistically significant differences by child age emerged in the regressions for the services and out-of-home placement outcomes. In regard to service provision, the study found that children age 3-5 are less likely to receive services than children age 0-2. This finding seems reasonable because younger children are more vulnerable to risk and harm than older children and therefore caseworkers may have a lower threshold for circumstances requiring CPS services when infants are involved. However, the analysis also found that children in the *oldest* age category (age 11-17) are significantly *more* likely to receive services than children in the 0-2 category. This finding regarding older children also held for the out-of-home placement outcome, where the only significant finding by age is that children 11 and older have *greater* odds of being placed out of home than children 2 and younger.

While this finding may seem counterintuitive at first glance, a likely explanation is that older children who come into contact with the child welfare system are much more likely than younger children to have clinical levels of emotional and behavioral problems (Burns et al., 2004). These difficulties may drive the higher likelihood of service provision and out-of-home placement seen among children in the highest age category compared to children in the youngest category. In addition, older children may be more likely to try to intervene to stop a domestic violence incident or to protect a parent, which may place them at higher risk of potential or actual harm warranting stronger levels of intervention in cases where DV is present.

5.4 Study Limitations

Though this study makes unique contributions to the literature on child welfare responses to domestic violence, it is not without limitations, many of which have been discussed briefly in previous chapters. This section is intended to provide a transparent accounting of the aspects of the current study that impose limitations on analysis, interpretation, or generalizability. The findings of this study are qualified by these limitations.

Non-random missing data. As discussed in Chapter 4, there are 782 subject children in NSCAW II whose caseworkers did not participate in a caseworker interview. As a result, these 782 children are missing from this analysis, since both parts of the study used variables sourced from the caseworker interview. Bivariate cross-tabulations to explore whether missing data was randomly distributed indicated that there are statistically significant differences by race between subjects with completed caseworker interviews and those without. Specifically, the caseworkers of White children were more likely to have completed the caseworker interview than caseworkers of children from other race categories, resulting in the overrepresentation of White children in the sample analyzed for this study.

Lack of detailed data on DV as abuse. One of the major limitations of secondary data analysis is that the researcher is constrained by the data that were gathered in the primary study, and this is a clear limitation in this analysis. For reasons that are not documented, the NSCAW II research team chose to collect detailed data on the alleged abuse for only a few types of maltreatment identified by caseworkers. More specifically, if the child's caseworker selected physical maltreatment, sexual maltreatment, physical neglect, or supervisory neglect when asked to identify the type or types of alleged abuse, then follow-up questions were asked to gather more details. The follow-up questions for these four types of maltreatment included items about relationship of the perpetrator to the child, whether injuries were sustained due to the abuse/neglect, and the nature, frequency, duration, and severity of the maltreatment. The lack of detailed abuse information for DV-referred cases limits the research questions that can be answered with these data.

This limitation extends to include the lack of any precise definition of DV in this study. Because no details were collected regarding DV abuse allegations, it is very likely that there is vast variability in the nature of the incidents coded as "domestic violence" by caseworkers within their PSUs. With a binary (and subjective) DV variable, the study cannot distinguish cases by type or severity, which limits what can be inferred about the commonalities (or differences) of cases coded as DV-referred. This is an especially conspicuous limitation given the frequent criticisms from scholars on the lack of definitional clarity in research on domestic violence (e.g., Johnson, 2008).

Caseworkers as informants. The data source for the primary independent variable and all of the risk variables in this study is the caseworker interview. This is considered a limitation because the caseworker instrument measures subjective caseworker assessments. It is not a validated measurement instrument, nor were caseworkers asked to use a uniform set of standards for identifying risk factors. One caseworker's personal judgment of what constitutes "high stress" or "cooperation" or "emotional problems" (or even "domestic violence," as mentioned above) may be based on an entirely different set of criteria than another caseworker's judgment of these same constructs. It is thus likely that there is low inter-rater reliability for the instrument that measured the majority of variables used in this analysis.

There is another limitation related to the caseworker interviews that has been pointed out by Kohl, Jonson-Reid, and Drake (2009). They noted that the extremely high turnover rate in the child welfare workforce, coupled with the 3-6 month window between the closure of the investigation and the caseworker interview in NSCAW II sampled cases, means that many caseworker interviews were likely completed by someone who was not the caseworker at the time of the investigation. It is probable that this resulted in the under-identification of many risk factors because workers using only the case record to complete the NSCAW interview may not have had access to complete and accurate case information (Kohl, Jonson-Reid, & Drake, 2009). This issue may also have contributed to missingness in the data, as caseworkers who did not personally investigate a case may have been more likely to answer "I don't know" to questions that weren't readily answerable from the case record, and these responses are treated as missing data in regression analysis.

Low generalizability. The wide variance in the distribution of DV-referred cases across PSUs presents perhaps the greatest limitation of this study because of how it influences generalizability of the findings. The effects and associations seen in the findings of this analysis represent the aggregate of all cases across all PSUs, which represent 81 different CPS agencies. Because the distribution of DV-referred cases is very uneven among these agencies, the aggregate findings produced may have limited implications for any given individual agency. For example, more than ten percent of PSUs in the NSCAW have *zero* cases with DV allegations. Thus the finding that cases with DV allegations are at increased risk of substantiation may have no relation to the actual practices of agencies in which DV is not present as an allegation in *any* cases.

It is worth noting that this is a limitation of the NSCAW II as a whole, not just of this study. The NSCAW II data are weighted to be representative of the *national* child welfare population, even though there are considerable variations in child welfare practices and policies at state, regional, and local levels (Berrick, 2012; Kelleher et al., 2006). As such, any aggregate finding from the NSCAW II may reflect very little about what one could expect to find in any given CPS agency. In the context of this study, the unevenness of DV cases by PSU only serves as a tangible highlight of this inherent limitation in generalizability.

5.5 Implications for Child Welfare Policy and Practice

This study makes a unique contribution to the literature by examining how the child welfare system responds to cases alleging domestic violence as child maltreatment. The findings produced by this research have implications that may inform policies and practices employed by child welfare agencies in serving families reported for DV.

The current study found that DV-referred cases are substantiated at a higher rate than cases referred to CPS for other allegations. However, substantiation for these cases is not a good predictor of subsequent levels of CPS intervention, including the decision to provide services and the decision to place out-of-home. This study suggests that for many cases that come to the attention of child welfare agencies due to child domestic violence exposure, substantiated findings do not result in more intensive CPS intervention. In addition, this study finds that though cases alleging *only* DV do not represent a substantial portion of the CPS caseload, they involve much lower risk than other cases, and yet have a much higher rate of substantiation than no-DV cases.

Child welfare investigation and case substantiation are actions that have tangible and intangible consequences for families. Investigation itself may be a stigmatizing and disruptive event for families, and a finding of substantiation can involve even more concrete effects. In many states, individuals who have been substantiated for child maltreatment are barred from employment that involves child interaction, including working at schools or daycare centers (Drake & Jonson-Reid, 2000). Though it is an obvious conclusion that those who truly maltreat children should not hold jobs that involve child care, there is solid and growing empirical evidence that substantiation is *not* a meaningful proxy for maltreatment, and that it does not predict child outcomes or future CPS involvement (Drake et al., 2003; English et al., 2002; Kohl, Jonson-Reid & Drake, 2009). These issues with substantiation have led some prominent child welfare scholars to call for the elimination of substantiation as a child welfare designation altogether (Kohl, Jonson-Reid & Drake, 2009). While it remains to be seen how the field will heed this call, there is, at the very least, clear reason to propose that substantiation is a finding that should not be applied unnecessarily.

In addition to the general impact that CPS intervention can have on families, there are special considerations for women who have experienced domestic violence. Some domestic violence scholars and advocates have noted the potential for female victims of violence to be "re-victimized" by CPS interventions that are focused on investigation,

assignment of blame, and compelled separation (Alaggia et al., 2007; Fleck-Henderson, 2000; Friend, Shlonsky, & Lambert, 2008; Sawyer & Lohrbach, 2005). On top of the concerns over potentially inflicting additional trauma on DV victims, there is the practical concern that fear of CPS investigation could potentially deter women in violent relationships from reporting their abuse or otherwise seeking help (Edleson, 1999; Magen, 1999).

The key findings of this study, that there are high rates of substantiation and low rates of out-of-home placement for DV-referred cases, suggest that some lower-risk DV cases could be appropriately targeted for specialized, non-investigative responses. Collectively, CPS interventions that do not involve "investigation" or determination of maltreatment are known as differential (or alternative) response. The theoretical basis of differential response was summarized by Waldfogel (1998) in her seminal writing on child protection paradigms. Waldfogel described a tiered approach to child welfare referrals in which full child welfare investigations are reserved for only high-risk cases that pose direct threats to child safety, while lower-risk cases are targeted for "assessment" of family service needs in a strengths-based and purportedly non-punitive manner outside of the context of maltreatment allegations and dispositions.

While Waldfogel's initial approach suggested that cases assigned to alternative responses should receive *voluntary* services provided by community agencies rather than CPS, differential response has been implemented in practice using a multitude of models, many of which are not truly voluntary, and most of which are handled through multiple tracks within the child welfare system rather than through community providers (Hughes et al., 2013). Differential response is currently the topic of rigorous debate among child welfare scholars, with some criticizing the lack of a clear and uniform practice model and inadequate research on child safety and outcomes in differential response approaches, and others seeing these approaches as a much-needed and safe step toward family-centered social work practice (see Hughes et al., 2013, and the numerous responses to their critiques in the same issue for a thorough discussion of this debate).

Current debates on differential response notwithstanding, the idea that alternative approaches to CPS intervention could or should be adapted for application to DV cases is not new. In 1999, in response to increasing child welfare intervention in domestic violence cases, the National Council of Juvenile and Family Court Judges issued a guide (known commonly as the "Greenbook") that represents the prevailing set of best practices for child welfare agencies, domestic violence service providers, and courts in working with cases involving child exposure to domestic violence. Among the many suggestions it entails, the Greenbook recommends as a first guiding principle:

> Communities should design service systems that entitle any adult or child victim of violence to receive help with or without the opening of a child protection case. Families with less serious cases of child maltreatment and domestic violence should be able to gain access to help *without the initiation of a child protection investigation or the substantiation of a finding of maltreatment*. (Schechter & Edleson, 1999, p. 15, emphasis added)

Since this influential early suggestion that DV cases could be better served outside of traditional CPS contexts, many other experts in this field have also called for the development of non-investigative responses to lower-risk CPS reports involving domestic violence (Alaggia et al., 2007; Cross et al., 2012; Edleson, 2004; Hamby et al., 2010; Sawyer & Lohrbach, 2005; Shlonsky, Friend, & Lambert, 2007). Edleson (2004) provides a thorough analysis of child exposure to DV and argues that, due to the wide variance in the effect of DV exposure on children, DV should only be defined as maltreatment that warrants CPS investigation in serious cases that pose clear risk of harm to children, or when it is reported concurrently with other serious risk factors. He suggests that "most cases" of child DV exposure should be handled via differential response paths or voluntary community service providers, calling the development and evaluation of these alternative responses a "top priority" for DV and child welfare advocates (Edleson, 2004, p. 21).

Despite the strong call for alternative response strategies for some DV-referred CPS cases, the field has yet to heed this call in a substantial way. There are limited examples from the literature regarding existing differential response used to target domestic violence cases. A noteworthy example is the program in Olmsted County, Minnesota, which utilizes a differential response option specifically tailored to DV cases through advanced training on DV and intensive collaboration with local DV service providers and legal agencies (Sawyer & Lohrbach, 2005). The Olmstead County program works primarily with women victims of domestic violence to assist them with safety planning and the coordination of services without the determination of maltreatment, and without forcing them to leave their partners by threatening child removal unless there is a clear immediate threat to child safety. Though this program has not been subjected to rigorous experimental or quasi-experimental research, local descriptive evaluation has shown that cases assigned to the alternative DV track have lower risk, lower rates of recidivism, and fewer child removals than cases served in other tracks, and that parents in the alternative track have higher satisfaction with CPS services than those in other tracks (Sawyer & Lohrbach, 2005).

For alternative responses to be effectively adapted for DV cases, the field has needed a deeper understanding of the relative characteristics and outcomes of DV-referred cases compared to other cases. Since initial pathway assignment in differential response occurs at the time a case is reported to CPS, the allegations present at case intake may determine the manner and level of CPS response. Understanding more about the unique features of cases that come to the attention of CPS due to DV allegations, and about how those cases move through the existing child welfare system, may help inform strategies for determining which cases to target for non-traditional CPS responses.

Prior to the current study, there was no research describing the differential features and outcomes of cases referred to CPS for DV exposure, alone and with other allegations, compared to cases referred for other maltreatment types. The findings of this study elucidate many differences in demographics, risk profiles, and case outcomes by presence of DV as an alleged abuse type, and these findings appear to support the notion that many DV-referred cases (and particularly those referred to CPS for DV-only) could be targeted

for alternative interventions. Since high rates of substantiation do not translate to concomitant rates of service provision or removal, this suggests that many cases could be diverted out of CPS pathways that lead to substantiation without further intervention. Cases involving DV as the only allegation might be considered particularly appropriate in selecting cases to target for non-investigative responses, since this analysis shows they have distinctly lower levels of risk than other cases.

5.6 Future research

There are many paths that future research should take to further the goal of developing effective, tailored interventions for families in which children have been exposed to domestic violence. Though this study sheds new light on the unique features of DV-referred cases in the child welfare system, much more attention should be paid to differential characteristics of batterers (and their violent behavior) in determining "what works, for which types of men, and under what circumstances" (Cavanaugh & Gelles, 2005, p. 157). Much progress has been made in recent years towards developing empirically-supported typologies to describe distinct types of intimate violence perpetrators, and the different typologies that exist have demonstrated promising convergence validity (Cavanaugh & Gelles, 2005). Research to both refine DV typologies *and* produce valid, reliable instruments for assessing types of DV would go far in the development of type-specific interventions that address individualized needs of both perpetrators and victims. Further, as typologies are refined, research is warranted to determine whether there are differential cognitive/social/emotional/behavioral child outcomes by DV type. Given the wide variability in how any individual child may react in response to DV exposure, measuring child outcomes by exposure type could produce a wealth of new knowledge to help practitioners, policymakers, and researchers understand which children may be most at risk.

Within the child welfare system, pilot programs that utilize differential response approaches that are specialized for the unique needs of DV-referred families should be implemented and rigorously tested. Such programs could be developed using existing models of differential response for DV cases (e.g., Sawyer & Lohrbach, 1999) or translating best practices for conventional CPS intervention in DV cases into a non-investigative context (e.g., Schechter & Edleson, 1999). However these models develop, it is critical that they are rigorously evaluated using sophisticated experimental or quasi-experimental research designs to ensure effectiveness that is focused on comparative child safety and other child-level outcomes. Secondarily, evaluation research should gather data on safety of adult victims of DV, parent engagement and satisfaction, and the impact of new interventions on child welfare processes and caseloads.

5.7 Conclusion

Child welfare cases alleging DV as a maltreatment allegation have unique profiles of risk, demographics, and outcomes that distinguish them from cases alleging other

maltreatment types. This study indicates that in the aggregate, DV-referred cases have higher likelihood of substantiation than cases not referred for DV, but despite higher substantiation rates, these cases are no more likely to receive child welfare services, and much less likely to result in out-of-home placement. Among DV-referred cases, this study also finds that cases alleging DV as the only maltreatment type have low levels of caseworker-assessed risk and other risk factors, while cases alleging DV concurrently with at least one other maltreatment type have high levels of caseworker-assessed risk and other risk factors. It is somewhat surprising that the clear differences in risk levels between these two groups are largely not reflected in their outcomes, which are similar to each other, and exhibit the same patterns in relation to cases without DV allegations.

Children exposed to domestic violence in their homes can be placed in serious danger that warrants strong coercive intervention by child welfare authorities. However, many children exposed to DV are not in such dire circumstances, and their situations may not warrant intensive levels of child welfare intervention. The conceptual difficulties associated with defining any DV exposure as child maltreatment, coupled with the findings from this study showing low incidence of intensive CPS intervention (i.e., out-of-home placement) for DV-referred cases, suggest that some lower-risk cases reported for DV could be appropriately targeted for non-investigative service approaches. Any such alternative intervention strategies should be carefully developed and rigorously analyzed to ensure that they are effective, and that they do not compromise the core child welfare mandate of maintaining child safety.

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Appendix A:
DV Allegation Group Proportions by PSU

Note: Though there are 81 PSUs in the sampling frame, there are 83 counties represented, and the PSU variable in the NSCAW II dataset includes all 83 counties, not just the 81 PSUs. This results in 83 rows instead of 81.

PSUs (counties)	DV-only %	DV+other %	No-DV %
1	11	11	78
2	0	0	100
3	0	0	100
4	9	10	81
5	0	10	90
6	0	13	87
7	0	12	88
8	0	7	93
9	9	16	75
10	5	20	75
11	2	8	90
12	0	0	100
13	1	2	97
14	9	8	83
15	4	4	92
16	0	4	96
17	8	13	79
18	3	15	82
19	10	7	83
20	10	17	73
21	3	7	90
22	3	15	82
23	4	12	84
24	25	10	65
25	17	9	74
26	0	13	87
27	2	5	93
28	2	12	86
29	0	10	90
30	0	5	95
31	0	16	84
32	7	7	86

33	3	10	87
34	9	7	84
35	0	0	100
36	0	2	98
37	0	0	100
38	17	20	63
39	18	12	70
40	8	21	71
41	0	18	82
42	23	18	59
43	0	7	93
44	0	5	95
45	0	4	96
46	0	14	86
47	0	3	97
48	0	3	97
49	0	11	89
50	14	9	77
51	0	16	84
52	0	0	100
53	18	6	76
54	2	9	89
55	0	11	89
56	0	3	97
57	0	8	92
58	0	7	93
59	0	3	97
60	3	10	87
61	0	15	85
62	0	2	98
63	0	15	85
64	0	10	90
65	5	11	84
66	0	0	100
67	8	15	77
68	0	5	95
69	0	11	89
70	0	0	100
71	0	8	92
72	0	7	93
73	1	0	99
74	2	19	79
75	8	7	85

76	2	11	87
77	18	0	82
78	2	0	98
79	3	3	94
80	4	9	87
81	0	0	100
82	7	5	88
83	3	10	87