COMMUNITY FACTORS IN DIFFERENTIAL RESPONSES OF CHILD PROTECTIVE SERVICES

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by
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COMMUNITY FACTORS IN DIFFERENTIAL RESPONSES

OF CHILD PROTECTIVE SERVICES

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ABSTRACT

Child maltreatment results in over 3 million referrals annually to U. S. child protective services agencies and an estimated 695,000 children who are determined to be child maltreatment victims. There are ongoing concerns about the large volume and complexity of referrals and the appropriateness of an investigative model that has been criticized as adversarial, intrusive, and inappropriate for some referrals. In response, a Differential Response Model of child protection has emerged, with investigative and non-investigative alternative response paths that better acknowledge the complexities of child maltreatment and child protection. The purpose of this study was to add to the knowledge base by identifying the relationships and significance of county-level community variables in the investigative and non-investigative response paths of the Differential Response Model.

Secondary data analysis used retrospective child maltreatment data from the National Child Abuse and Neglect Data System. County-level data on social,

economic, and demographic variables were obtained from the American Community Survey, an ongoing national survey conducted by the U.S. Census Bureau. The final dataset included 62,499 cases in 98 counties from Kentucky, Louisiana, Missouri, North Carolina, and Virginia. Predictor variables included data at child, county, and state levels. Multilevel modeling procedures were used to build multiple three-level models to analyze predictors for the binary outcome variable of child protective services differential response path: *alternative response* (non-investigation) or *non-alternative response* (investigation).

The final three-level model demonstrated that county-level factors accounted for 12.30% of the variability in the response path outcome variable. Key results indicated that the county-level variables of housing vacancy, unemployment, child poverty, and households with public assistance were significant ($p<.05$) in predicting response pathway. Child-level variables (report source, maltreatment type, child age, race, and number of children in the report), and the state variable of number of years since implementation of differential response were also significant ($p<.05$) predictors in the response path outcome variable.

Results demonstrated that factors from multiple levels and contexts impact how child protection units in the Differential Response Model respond to maltreatment referrals. Research using advanced multilevel analytic procedures is essential for accurate modeling and clarification of variables in nested relationships.

APPROVAL PAGE

The faculty listed below, appointed by the Dean of the School of Nursing and Health Studies, have examined a dissertation titled “Community Factors in Differential Responses of Child Protective Services”, presented by Karen McCallum, candidate for the Doctor of Philosophy degree, and certify that in their opinion it is worthy of acceptance.

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LIST OF ABBREVIATIONS

ACS – American Community Survey

ACYF – Administration on Children, Youth and Families

AR – alternative response

ARS – Another Road to Safety

CAPTA – Child Abuse Prevention and Treatment Act

CBARS – Community Based Alternative Response System

CCFP – Center for Child and Family Policy

CFSR – Child and Family Services Review

CPS – Child Protective Services

CWIG – Child Welfare Information Gateway

DEM – Developmental Ecological Model

DHHS – Department of Health and Human Services

DME – Decision-Making Ecology Framework

DR – differential response

DRM – Differential Response Model

DV – dependent variable

EDV – exposure to domestic violence

FAR – Family Assessment and Response

FFCW – Fragile Families and Child Wellbeing

FFY – Federal Fiscal Year

FIPS – Federal Information Processing Standards

GLMM – Generalized Linear Mixed Models

HFNY – Healthy Families New York

ICC – intraclass correlation

IFS – Illinois Family Study-Child Wellbeing

IPV – intimate partner violence

IRB – Institutional Review Board

IV – independent variable

LongSCAN – Longitudinal Studies of Child Abuse and Neglect

MAUP – modifiable areal unit problem

MLM – multilevel modeling

MRS – Multiple Response System

NCANDS – National Child Abuse and Neglect Data System

NDACAN – National Data Archive on Child Abuse and Neglect

NQIC – National Quality Improvement Center on Differential Response in Child Protective Services

NRC – National Research Council

NSCAW – National Survey of Child and Adolescent Well-Being

SACWIS – Statewide Automated Child Welfare Information System

UMKC – University of Missouri-Kansas City

WRM – Washington Risk Model

GLOSSARY

alternative response – see differential response

child abuse and neglect – per federal definition of child abuse and neglect which "…means, at a minimum, any recent act or failure to act on the part of a parent or caretaker, which results in death, serious physical or emotional harm, sexual abuse or exploitation, or an act or failure to act which presents an imminent risk of serious harm" (Child Abuse Prevention and Treatment Act (CAPTA), 1996, § 5106)

child maltreatment – used to refer collectively to forms of child abuse and neglect

differential response – "a formal response of the agency that assesses the needs of the child or family without requiring a determination that maltreatment had occurred or that the child is at risk of maltreatment" (U.S. DHHS, 2003, p. 3)

disposition – finding by CPS that evidence is or is not sufficient under applicable state law to determine that maltreatment occurred

intake – system of receiving referrals and CPS screening of referrals of alleged maltreatment

maltreatment recurrence – a subsequent report of substantiated maltreatment in the six months following a substantiated report of maltreatment (U.S. DHHS, 2011a)

maltreatment type – the form of maltreatment alleged; may include physical, sexual, psychological, or emotional abuse or forms of neglect under applicable state law

non-victim – determination by CPS that there is not sufficient evidence under applicable state law to conclude that child was maltreated

prior child victim – a victim with prior reports of maltreatment CPS dispositions of substantiated, indicated, or alternative response victim

recurrence – see maltreatment recurrence

referral – notice to CPS of possible child maltreatment; may include more than one child

report – referral of alleged child maltreatment received by CPS is screened in for CPS response in the form of an investigation or differential response

screened in referral – referral with allegations of child maltreatment meets state criteria for further response by CPS

screened out referral – referral with allegations of child maltreatment does not meet state criteria for further response by CPS

Statewide Automated Child Welfare Information System (SACWIS) – automated system adopted by a state for the processing and reporting of statewide child welfare information

substantiated – a CPS investigation disposition with finding that maltreatment was supported under applicable state law

unsubstantiated – a CPS investigation disposition with finding that maltreatment was not supported under applicable state law

victim – determination by CPS that there is sufficient evidence under applicable state law to conclude that child was maltreated

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In grateful acknowledgment of the source and use of data, the author adopted the following statement:

> The analyses presented in this publication were based on data from the National Child Abuse and Neglect Data System (NCANDS) Child File, Federal Fiscal Year (FFY) 2010. These data were provided by the National Data Archive on Child Abuse and Neglect at Cornell University, and have been used with permission. The data were originally collected under the auspices of the Children's Bureau with funding from the Children's Bureau. Funding was provided by the Children's Bureau, Administration on Children, Youth and Families, Administration for Children and Families, U.S. Department of Health and Human Services. The collector of the original data, the funding agency, NDACAN, Cornell University, and the agents or employees of these institutions bear no responsibility for the analyses or interpretations presented here. The information and opinions expressed reflect solely the opinion of the author. (U.S. DHHS, 2011c, p. iii)

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CHAPTER 1

INTRODUCTION

Child maltreatment, including child abuse and neglect, is a significant problem resulting in an estimated 3.3 million referrals, involving approximately six million children, annually to child protective services (CPS) agencies in the United States (U.S. Department of Health and Human Services (DHHS), 2011a). There are substantial variations in state responses to maltreatment referrals. Local CPS agencies responded to a national average of 60.7% (range 25.2-98.7%) of these initial referrals while declining to respond to 39.3% (range 1.3-74.8%) of the referrals (U.S. DHHS, 2011a).

Investigations by CPS agencies in Federal Fiscal Year (FFY) 2010 determined that an estimated 695,000 children were victims of abuse or neglect (U.S. DHHS, 2011a). Neglect was the most common form of maltreatment (78.3%), followed by physical abuse (17.6%), sexual abuse (9.2%), and psychological abuse (8.1%) with some victims suffering multiple types of abuse. Those in a parental relationship with the victim perpetrated 81.2% of the abuse with biological parents perpetrating 84.2% of parental abuse. Step-parents perpetrated only 4.0% of the abuse. Women perpetrated 53.6% of the abuse compared to 45.2% committed by men. Of all perpetrators, 36.3% were 20 to 29 years of age. In 58.6% of cases

accepted by CPS, the referral was made by a professional working with children. Medical professionals including nurses accounted for only 8.2% of these cases.

Based on national CPS data (U.S. DHHS, 2011a), there were an estimated 1,560 (2.07 deaths per 100,000) children who died from child maltreatment with 79.4% of fatalities in children less than four years of age. The fatality rate was somewhat higher for boys (2.51 per 100,000) than girls (1.73 per 100,000). Neglect, without co-occurring other maltreatment types, accounted for 32.6% of maltreatment fatalities whereas 40.8% of fatalities were caused by multiple maltreatment types. It has been shown that use of a single data source, such as CPS or death certificate data, significantly underestimates child maltreatment fatality rates (Crume, DiGuiseppi, Byers, Sirotnak, & Garrett, 2002).

In non-fatal child maltreatment cases, 21.9% of the victims were African American, 21.4% were Hispanic, 44.8% were White, and 48.5% were female. More than one third of the victims were under four years of age with children less than one year of age having the highest rate of victimization (20.6 per 1,000). A study utilizing non-CPS data reported the occurrence of child maltreatment at a rate of 138 per 1,000 children (Finkelhor, Ormrod, Turner, & Hamby, 2005). Comparison of the incidence rate of child maltreatment (929.65 per 100,000) to incidence rates for all cancers (497.65 per 100,000), or for childhood cancers (17.96 per 100,000), provides perspective and evidence of the significance and scope of the problem of child maltreatment.

Though some victims of child maltreatment may demonstrate resilience in response to abuse (Madsen & Abell, 2010), many more victims experience a variety

of negative health and social outcomes such as developmental dysfunction, substance abuse, criminal behavior, and an increased risk for morbidity persisting throughout adulthood (Child Welfare Information Gateway (CWIG), 2013; English et al., 2005; Gilbert et al., 2009; Hussey, Chang, & Kotch, 2006; Jonson-Reid, Drake, & Kohl, 2009; Smith, Ireland, Thornberry, & Elwyn, 2008; U.S. DHHS, 2005). Short- and long-term consequences of child maltreatment may include death, traumatic brain injury, depression, suicide, post-traumatic stress disorder, high-risk sexual behaviors, poor academic or job performance, and high-risk negative health behaviors. The economic cost of child abuse and neglect in the U. S. is conservatively estimated at $103.8 billion annually (Wang & Holton, 2007) with an estimated lifetime cost of $124 billion for new cases of substantiated child abuse and neglect each year (Fang, Brown, Florence, & Mercy, 2012).

Child Maltreatment Definition

Current recognition of child maltreatment is based on the federal definition of child abuse and neglect which "…means, at a minimum, any recent act or failure to act on the part of a parent or caretaker, which results in death, serious physical or emotional harm, sexual abuse or exploitation, or an act or failure to act which presents an imminent risk of serious harm" (Child Abuse Prevention and Treatment Act (CAPTA), 1996, § 5106). Beyond this federal minimum definition, the definition of child maltreatment and the evidence required to demonstrate that maltreatment occurred vary according to state laws, agency policies, and local practices (U.S. DHHS, 2011a).

All 50 states have laws defining maltreatment and requiring identified categories of personnel to report suspected child abuse or neglect (CWIG, 2009, 2012). Nurses and other health care providers, teachers and other school personnel, law enforcement officers, and social workers are among those required by law to report suspected maltreatment. As mandated reporters, nurses are legally required to report suspected child abuse or neglect to the state child welfare agency. Failure to report allegations may subject the nurse to civil and/or criminal penalties, including possible fines and jail time. The nurse is responsible for knowing state and local laws and institutional policies and procedures for fulfilling the mandate for reporting suspected abuse. The Child Welfare Information Gateway (http://www.childwelfare.gov), administered by the U.S. DHHS, has extensive information, links to additional resources, and online state statute and policy information (http://www.childwelfare.gov/systemwide/laws_policies/state/index.cfm).

Child Protective Service Models

Historically, CPS agencies have practiced under a traditional medical-legal model of child welfare focused on identification and protection of victims and identification and prosecution of perpetrators. The procedure for responding to referrals for suspected maltreatment varies somewhat from state to state, but the process begins when CPS receives referrals from various sources including hotline calls from members of the general public, police or school officials, or from others required by law to report (mandated reporters) suspected maltreatment (U.S. DHHS, 2011a). Whether the referral intake office is centralized at the state level or administered at the county level, CPS officials screen each referral to determine if

the circumstances reported meet that state's criteria for CPS investigation. Referrals that do not meet the criteria for investigation are *screened out* of the CPS system and receive no further CPS response. Examples of referrals that may be screened out include those for which there is incomplete information, a false address, or insufficient support for the claim of maltreatment. Referrals involving perpetration by a person who is not in the role of parent or caregiver are referred to law enforcement officials for investigation and possible prosecution under criminal laws. Referrals that are accepted by CPS are *screened in* for investigation and referred to the local CPS office. CPS responds to *screened in* referrals by investigating the maltreatment allegations and making a report of findings, or *disposition*, as to whether the alleged maltreatment occurred or whether the child is at risk of maltreatment. A report is assigned a finding, or disposition, of *substantiated, indicated,* or *founded* (U.S. DHHS, 2011a) when it is determined that the alleged maltreatment, or risk of maltreatment, met evidentiary requirements under state law. When findings do not meet the legal criteria for substantiation as maltreatment, the report may be assigned a finding of *unsubstantiated* or *not indicated* (U.S. DHHS, 2011a). As disposition categories are determined by state law and agency regulation and policy, the categories vary somewhat from state to state. This model of traditional CPS practice is depicted in Figure 1.

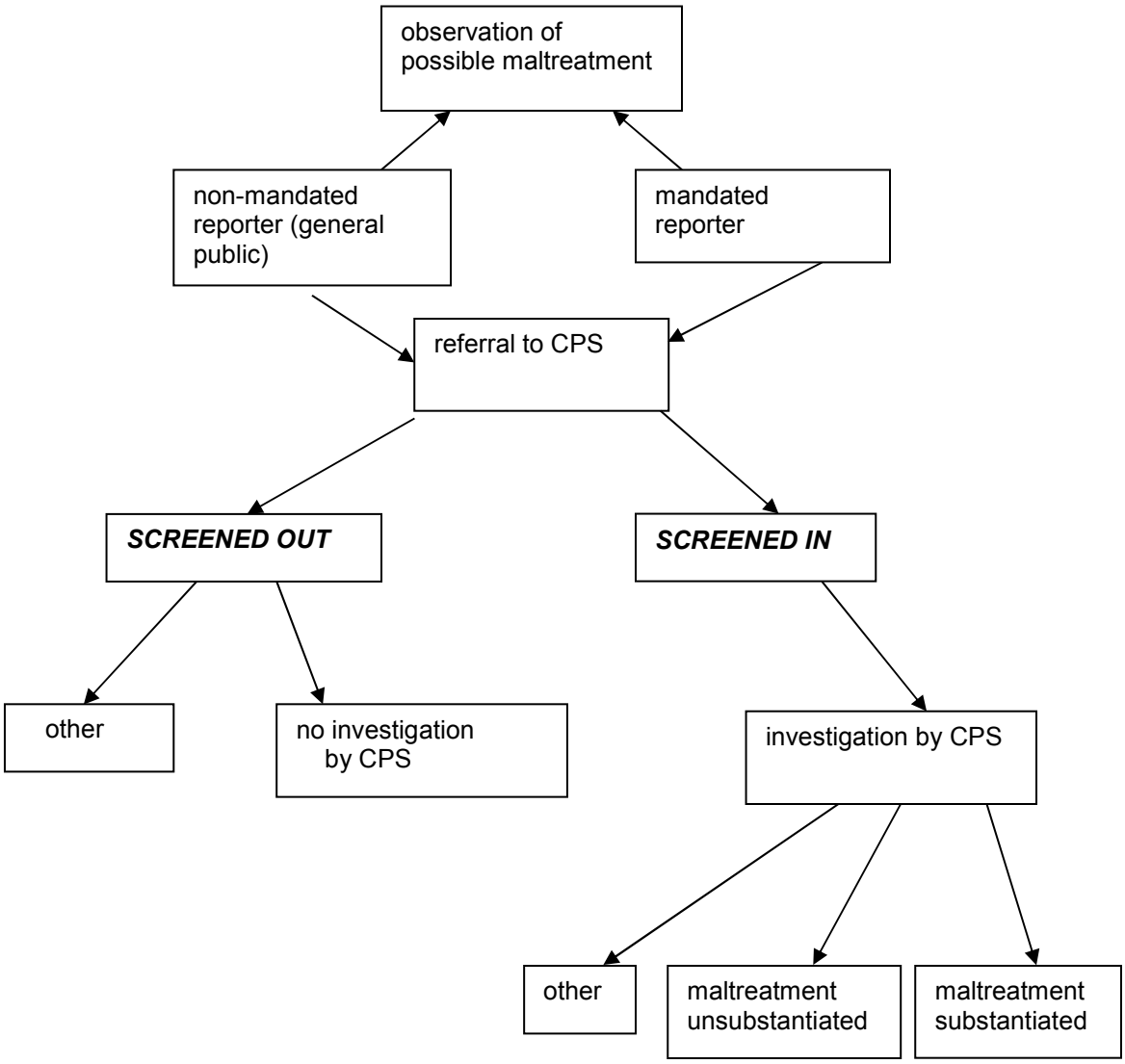

Figure 1. Model of Traditional Child Protective Services Practice. CPS = Child Protective Services.

In the traditional medical-legal model of CPS practice (Figure 1), all *screened in* referrals are investigated in a process that has been viewed as adversarial, intrusive, and inappropriate for some referrals (English, Wingard, Marshall, Orme, & Orme, 2000; Schene, 2001; Waldfogel, 1998). Since the 1990s, there have been

ongoing concerns about the volume and complexity of referrals and the capacity and appropriateness of the traditional CPS practice model (Schene, 2001; Shusterman, Hollinshead, Fluke, & Yuan, 2005; Waldfogel, 1998). A differential response model (DRM) of CPS practice has emerged in a number of states to address these issues. Though differential response (DR) is known by various names, such as alternative response (AR), multiple response, dual path model, and other names, there is movement to focus on the DR label as it is indicative of CPS responses that treat referrals differentially based on assessment of needs in each case (CWIG, 2008; FRIENDS, 2007; Merkel-Holguin, Kaplan, & Kwak, 2006; Schene, 2005). For the purposes of a national study of CPS practices, alternative responses (AR) based on the DRM were defined "as a formal response of the agency that assesses the needs of the child or family without requiring a determination that maltreatment had occurred or that the child is at risk of maltreatment" (U.S. DHHS, 2003, p. 3).

A generic DRM includes a non-investigative path in addition to the traditional CPS investigation path as a possible response to *screened in* referrals. Initial screening of referrals identifies levels of child maltreatment risk and directs high-risk referrals to the investigation pathway and low to moderate risk referrals to an alternative or non-investigative pathway. The non-investigative path includes some form of family assessment in which safety, risk, and family strengths, needs, and resources are assessed. Responses by CPS to these assessments may include findings that no services are needed, voluntary services are recommended, or services are needed. The family may decline or agree to *voluntary* services. If the

family refuses *needed* services, the case may be changed to the investigative path (Kaplan & Merkel-Holguin, 2008).

Essential to the DRM is that there is no substantiation of maltreatment and no identification of a perpetrator in the non-investigative (AR) pathway. In the AR path, CPS findings are assigned to disposition categories such as *alternative response, non-victim*; *alternative response, victim*; or *maltreatment indicated* or *not indicated* (U.S. DHHS, 2011a). A generic DRM of CPS practice is depicted in Figure 2.

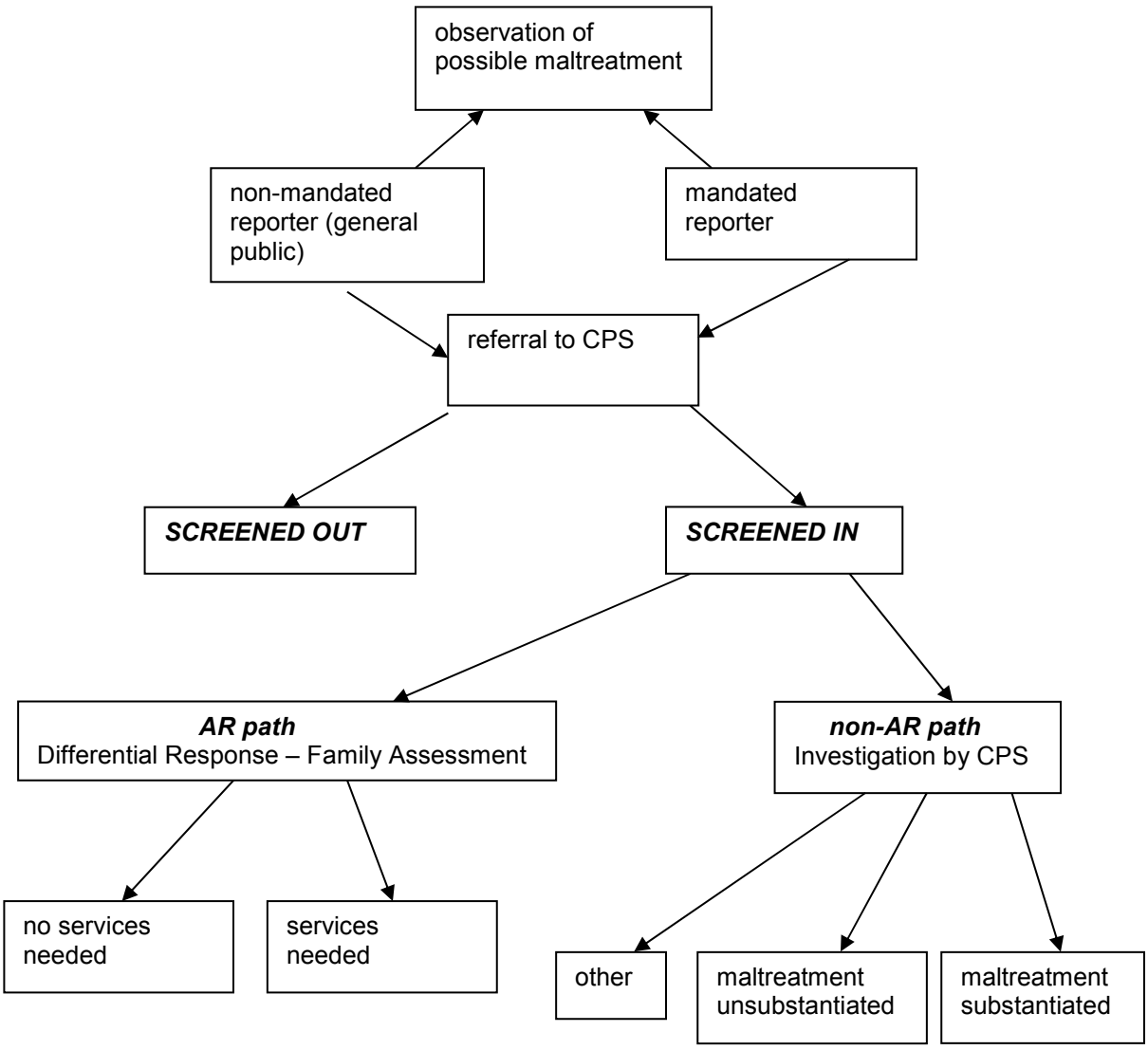

Figure 2. Differential Response Model of Child Protective Services Practice. CPS = Child Protective Services; AR = alternative response.

There are 24 states reportedly having some form of differential CPS practice (Casey Family Programs, 2011b; National Quality Improvement Center on Differential Response in Child Protective Services (NQIC), 2009), with 12 states having implemented DR on a statewide basis. Only 14 states, as identified in Table

1, reported CPS DR dispositions in their reports to the National Child Abuse and Neglect Data System (NCANDS) for FFY 2010 (U.S. DHHS, 2011a).

Table 1

U.S. States with CPS Differential Responses

State	1st Year DR	Year State-Wide	FFY 2010 DR Data to NCANDS	Enabled by State Statute	No. of Paths for Screened In Reports	Path for Screened Out Reports	Risk / SDM tool to Assign Path
California	2004	No	No	Yes	2	Yes	U
Colorado	2010 start 3 year pilot	5 counties	No	Yes	2	U	Yes
Connecticut	in planning	U	No	Yes	U	U	U
Hawaii	2005	Yes	No	Yes	2	Yes	Yes
Illinois	2010	No	No	Yes	2	No	U
Indiana	2005-2009	Yes	No	No	U	Yes	Yes
Kentucky	2001	Yes	Yes	Yes	4	No	Yes
Louisiana	1999		Yes	Yes	2		
Maine	2001	Yes	No	No	2	No	Yes
Minnesota	1997	2005	Yes	Yes	2	No	Yes
Missouri	1994	Yes	Yes	Yes	2	Yes	Yes
Nevada	2007 3 pilot counties	2008-2009[a]	Yes	Yes	2	U	U
New Jersey	2007	No	No	Yes	1	U	U
New York	2008	No	Yes	Yes	2	No	No
North Carolina	2001	Yes	Yes	Yes	2	No	Yes
Ohio	2006	In 25/88 counties	No	Yes	2	No	No
Oklahoma	1997	Yes	Yes	Yes	2	No	No
Pennsylvania	U	Yes	No	U	1	N/A	U
Tennessee	2005	No	Yes	Yes	3	Yes	Yes
Vermont	July 2009	2010	Yes	Yes	2		
Virginia	2002	Yes	Yes	No	2	No	Yes
Washington	1994		Yes	Yes	2		
Wisconsin	FFY 2010 pilot	5 counties	Yes	Yes for pilot			
Wyoming	2005[b]	Yes	Yes	Yes	2	Yes	Yes

Note. DR = Differential Response; NCANDS = National Child Abuse and Neglect Data System; SDM = Structured Decisionmaking Tool; U = Unknown; NQIC = National Quality Improvement Center on Differential Response in Child Protective Services. Sources: Casey Family Programs, 2011a; NQIC 2009; U.S. DHHS, 2011a.

[a] no DR in 6 counties

[b] substantive legislative changes October 2009

In contrast to the traditional investigation path, the non-investigation (AR) path focuses on assessing family needs with engagement and encouragement rather than use of an adversarial and threatening approach. The goal is to identify needed services and support rather than to identify a victim and punish a perpetrator (Conley, 2007). In both the traditional and DR models, CPS practice is directed toward successfully meeting child safety, well-being, and permanency (CWIG, 2008; Kaplan & Merkel-Holguin, 2008). Research on the relative effectiveness of this approach is just emerging (Drake, 2013).

Research Questions

The health and well-being of children and their families are linked to the health and well-being of the communities in which they live (Belsky, 1980, 1993; Bronfenbrenner, 1977; National Research Council (NRC), 1993. The DRM focuses responses to referrals differentially based on assessment of needs in each case; and encourages collaboration of families and community services. Thus, one might expect DRM path assignment to be impacted by child and family characteristics to a much greater extent than by community factors. Understanding the relationship of county-level community factors to DRM path assignment is important because of the significant consequences and costs of child maltreatment, the importance of community collaboration in the DRM, and the county-level organization of CPS in many states. Based on review of the literature and consistent with the developmental ecological framework, consideration was given to the possible contributions of factors in multiple domains including characteristics of the child,

circumstances of the report, and county- and state-level characteristics. Specific variables initially considered for possible inclusion in the study are presented in Table 2.

Table 2

Variables Considered for Possible Inclusion in the Study

Individual Level	Community Level	CPS Response Paths
Child Characteristics	County-Level Characteristics	AR investigation
Child ID	Urban or rural	AR non-investigation
Age	Persons under age 5 years	
Sex	Persons under age 18 years	
Race	Persons foreign born	
Ethnicity	Race	
Living arrangement	Single parent household	
Disability or impairment	Median household income	
Alcohol abuse	Persons <18 years below poverty level	
Substance abuse	High school graduates age 25+	
Prior victim		
Caretaker Characteristics	State-Level Characteristics	
Disability or impairment	Year DR first implemented	
Alcohol abuse	Intake level: centralized or local	
Substance abuse		
Domestic violence		
Inadequate housing		
Financial problem		
Public assistance		
Perpetrator Characteristics		
Perpetrator ID		
Age at report		
Sex		
Race		
Ethnicity		
Military member		
Relationship to child		
Report Characteristics		
Report ID		
Report date		
Report source		
Maltreatment type		

Note. ID = identification; DR = Differential Response; AR = Alternative Response.

The purpose of this study was to fill a gap in the knowledge base by identifying the significance of county-level community factors to AR and non-AR paths in the DRM. The specific aims of the research study were to:

1. Identify and describe the relationships of county-level community factors to CPS response paths in differential response systems.

2. Explore and describe the relationships of county-level community factors to CPS response paths in differential response systems while controlling for child, family, and case characteristics.

The research questions addressed in the study were:

1. What are the differences in child, family, and case characteristics between cases assigned to CPS investigation path (non-AR) compared to the AR path?

2. What is the relationship of county-level community factors to AR and non-AR path assignment when controlling for child, family, and case characteristics?

To address the specific aims and research questions, analytic strategies for this study included descriptive, multivariate, and multilevel modeling statistical techniques.

Theoretical Framework

Theoretical frameworks provide systematic organization of concepts to assist in the identification of study variables and their possible relationships. The framework also provides guidance in analytic strategies and interpretation and application of study findings. Early child maltreatment research was based on models that focused on pathology within the individual perpetrator (NRC, 1993). Research efforts have frequently been organized based on the type of maltreatment

and often focused on singular or limited factors to examine child maltreatment and child protection.

As research evidence and knowledge accumulated, theory development evolved in recognition that child maltreatment is complex, multi-dimensional, and affected by multiple interactive processes in multiple domains. In a 1993 report on child abuse and neglect research, the NRC recommended that child maltreatment be viewed from an ecological and developmental perspective with a focus on facilitating healthy child development. This developmental ecological model (DEM) allows for conceptualizations of complex, multifactorial, multilevel interactions and processes and allows for multidisciplinary efforts in maltreatment research, identification, prevention, and intervention.

Within the DEM, there are four nested domains including intrapersonal (individual or ontogenic), interpersonal (microsystem), community (exosystem), and society (macrosystem) (Belsky, 1980, 1993; Bronfenbrenner, 1977). The intrapersonal domain includes individual characteristics, and the interpersonal domain includes family characteristics as well as parent-child interactions. Neighborhoods, schools, work places, and geopolitical areas are examples of contexts in the community domain. The society domain includes contexts such as governmental and institutional laws and policies, and professional and cultural considerations. There are multiple biopsychosociocultural, political, and economic contexts and interactive processes located within and across these domains. This model is interactive in that the domains, contexts, and factors may influence and be influenced by other domains, contexts, and factors (Belsky, 1980, 1993;

Bronfenbrenner, 1977; Hamilton, 1989; Little & Kantor, 2002). Within these contexts, there are multiple factors which may be predictive, protective, or suggestive of increased risk of child maltreatment. Maltreatment is more likely to occur when protective factors are absent, decreased, or overwhelmed by the presence of risk factors (Belsky, 1993; Bronfenbrenner, 1977; Hamilton, 1989; Little & Kantor, 2002).

Other frameworks have been used in the study of child maltreatment issues and in providing evidence for the basis of child protection responses. For example, Herring (2009) applied evolutionary theory and behavioral biology concepts and research to address the relationship of male parental investment based on the premise that lower parental involvement represents higher risk of child maltreatment perpetration by the male parental figure. Attribution theory with a social-cognitive approach has been used to study physical child abuse in terms of the inference of responsibility for the perceived aggression of another and the level of maternal stress in a sample of low income African American mothers (Graham, Weiner, Cobb, & Henderson, 2001). There was greater risk for harsh punishment and abusive behavior in mothers with higher stress who perceived the child as responsible for intentional misbehavior.

The Decision-Making Ecology Framework (DME) (Baumann, Dalgleish, Fluke, & Kern, 2011) represents an alternative theory for use in the study of CPS system factors related to child maltreatment and DR practice. The DME, which can be viewed as theory nested within an ecological framework, places CPS decision-making within a systems perspective. Case, external, organizational, and decision-

maker factors in the DME combine to influence decision-making and outcomes of decisions. CPS decisions to screen in referrals, or to assign referrals to a non-investigation path, or to substantiate a report of maltreatment are important because such determinations may have implications not only for the life and safety of the child, but also for delivery of services and prosecution of perpetrators. The DME provides a robust and interactive framework for identifying variables and describing variable relationships that may influence CPS decision-making processes. For example DePanfilis and Girvin (2005), in a study of maltreated children in out-of-home care, found that faulty CPS decision making in the substantiation decision may have been related to inadequate investigation processes, failure to match case documentation to legal and policy definitions, significant workload issues, pressure to unsubstantiate because of shortage of foster homes, faulty assessment tools, poor documentation of investigations, and disregard for information from others if it did not match the worker's view.

Though these and other frameworks offer advantages in their utility for studying specific aspects of child maltreatment such as the parent-child interaction or decision-making by CPS workers, the current research study adopted the DEM framework to facilitate examination and understanding of DR from a broader perspective. This approach enabled recognition and consideration of multiple social, economic, and demographic factors and interactive processes in multiple domains that could be significant in understanding DR. The DEM allows for recognition and characterization of the complexities of factors related to child maltreatment in terms of the child, family, environment, and CPS response pathways (Belsky, 1993;

Hammond, Haegerich, & Saul, 2009; Little & Kantor, 2002; Whitaker, Lutzker, & Shelley, 2005).

CHAPTER 2

REVIEW OF THE LITERATURE

Foundational in all phases of the research process, "A *research literature review* is a systematic, explicit, and reproducible method for identifying, evaluating, and synthesizing the existing body of completed and recorded work produced by researchers, scholars, and practitioners" (Fink, 2010, p.3). The purpose of this review was to examine the existing literature on CPS differential responses and the relationships of community factors to the DR pathways. This report identifies the methodology used to search the literature, describes the DR model, and presents review findings related to maltreatment substantiation, maltreatment recurrence, service provision in DR, factors impacting DR, community factors and maltreatment, and gaps in the DR literature.

Review Methodology

Much of the literature on DR is not indexed in the traditional academic databases, and must be accessed via the internet and a multitude of governmental, organizational, and university websites. Table 3 presents selected websites with information and publications on DR.

Table 3

Selected Websites for Differential Response Information and Publications

Website Address	Website Sponsor
http://www.americanhumane.org	American Humane Association
http://www.aspe.hhs.gov	U.S. DHHS, Office of the Assistant Secretary for Planning and Evaluation
http://www.childwelfare.gov	Child Welfare Information Gateway, Children's Bureau, Administration for Children and Families, U.S. DHHS
http://www.childwelfarepolicy.org	Casey Family Programs
http://www.differentialresponseqic.org	National Quality Improvement on Differential Response in Child Protective Services
http://www.friendsnrc.org	FRIENDS National Resource Center for Community-Based Child Abuse Prevention
http://www.iarstl.org	Institute of Applied Research, St. Louis, MO
http://www.icpsr.umich.edu	University of Pennsylvania, Center for Research on Youth and Social Policy
http://www.ndacan.cornell.edu	funded by the Children's Bureau, Administration on Children, Youth and Families, Administration for Children and Families, U.S. DHHS
http://www.nrccps.org	National Resource Center for Child Protective Services; funded by the Children's Bureau, Administration on Children, Youth and Families, Administration for Children and Families, U.S. DHHS
http://www.state.il.us/DCFS	State of Illinois, Department of Children and Family Services

The methodology utilized to review the literature for this study included searches of Medline, PsycInfo, CINAHL, PubMed, and Academic Search Complete online databases using the following keywords: child abuse, child maltreatment, child welfare, child protective service, differential response, and alternative response. Searches were limited to English language and humans. This strategy

resulted in 664 articles for initial screening. Reviewing article bibliographies resulted in additional publications for screening. Web-based search engines and resource linkages through multiple websites produced additional material. Criteria for inclusion were based on relevance, timeliness, and strength and adequacy of the material's substance. Ultimately, 173 items were selected for possible use in this review. Table 4 presents findings from selected DR publications.

Table 4

Selected Publications Regarding Differential Response

Author & Year	Location	Methodology	Sample Size	Selected Findings
Franke, Bagdasaryan, & Furman, 2011	11 small rural counties in northern California	Comparison of 2 interventions: Path 1: community intervention only Path 2: joint CPS & community intervention Cases from community referral	n=90 cases	Case type predicted by presence of physical abuse and neglect Community referred cases had higher rate of service receipt Service delivery less differentiated by path Path 1 & Path 2 with low proportion of goal accomplishment; goals most likely achieved by cases receiving services
Lawrence, Rosanbalm, & Dodge, 2011	North Carolina	Mixed methods exploration of North Carolina DR, Multiple Response System (MRS) 9 pilot & 9 control counties CPS administrative data Provider focus groups Caregiver phone interviews,	Provider focus groups n=450 Caregiver phone interviews, n=223	Under MRS: decline in rates of substantiations decline in rates of re-assessments no effect on time to case decision increased number of up-front services improved rapport & family engagement Implementation cost-neutral Significant proportion of families receiving services indicated services not very useful in improving family functioning
Conley & Berrick, 2010	Alameda County, CA	Survival analysis Quasi-experimental static-group comparisons Another Road to Safety (ARS) treatment: home visits 9 months by paraprofessionals	(ARS) treatment group n=134; aged 0-5 years comparison group, n=511 Treatment: home visits 9 months by para-professionals	For screened out cases Comparison group consisted of children eligible for ARS, but not offered services because of lack of program capacity No differences in groups for: likelihood of re-report timing of maltreatment reports after ARS report investigations Models with demographic variables not significant

Author & Year	Location	Methodology	Sample Size	Selected Findings
National Quality Improvement Center on Differential Response in Child Protective Services (NQIC), 2009	nationwide via internet	103 item web-based survey of state CPS agencies regarding DR practices, models, policies, and CPS structures	n=40	18 states have DR – 4 not included because incomplete surveys 11 states with statewide DR 5 states had DR but now defunct – expense, staff turnover, leadership change, focus on prevention instead of incident-based practice 8 states planning DR implementation in future 9 states no past, present, or planned DR 12 states did not respond to survey 8 states DR mandated by state statute 14 DR states do not substantiate maltreatment in non-investigative path 11 DR states use risk matrices or decision trees for path assignment Economic hardship support, substance abuse programs, & child care services are top 3 services recommended in non-investigative pate
Richardson, 2008		Literature review		Prepared by Children and Family Research Center of the University of Illinois School of Social Work for state of Illinois as it considered DR implementation
Conley, 2007	Another Road to Safety (ARS) Program in Alameda County, CA	Critical examination of ARS Program & literature review		Criteria for referral to ARS: Cases screened out by CPS Live in targeted zip code Child under the age of 5 years Pregnant mother ARS voluntary home visitation services Targeting basic & concrete needs Paraprofessional service delivery Weekly visits >1 hour over 9 months
Zielewski & Macomber, 2007	One urban & one rural county each for OK & KY	Qualitative study with semi-structured interview	n=92 individuals	Gaps in rural service availability for long-term, inpatient substance abuse treatment & domestic violence shelters Location & quantity of rural service providers present barriers & transportation issues in rural service provision

Author & Year	Location	Methodology	Sample Size	Selected Findings
				Lack of anonymity in rural areas Tight-knit rural community facilitates service network development
Zielewski, Macomber, Bess, & Murray, 2006	One urban & one rural county each for OK & KY	Exploratory, descriptive with interviews & focus groups	n=17 for community service providers; n unstated for CPS agency administrators, CPS caseworkers, or families involved	Factors possibly affecting family connection to services in DR system: Service network infrastructure Service availability Referral process Follow-up process Approach to families Service facilitators
Merkel-Holguin, Kaplan, & Kwak, 2006	States with CPS practice meeting study definition of DR	17 item survey	n=15	11 of 15 states have statewide DR 13 of 15 states have dual track 7 of 15 states have path for screened out reports 15 of 15 states have specific criteria for path assignment based on risk level based on risk factors such as type of maltreatment, child age, prior CPS reports, EDV, or caretaker substance abuse. Significant variation noted among states' criteria 15 of 15 states allow change from non-investigative to investigative path 7 of 15 states do not allow change from investigative to non-investigative path 15 of 15 states do not substantiate maltreatment in non-investigative path 14 of 15 states do not enter perpetrator name in central registry for cases in non-investigative path 10 of 15 states have state statutes mandating DR Provides profiles of 15 states & 1 county with DR; 3 states with defunct DR; 9 states & 1 county with non-DR innovations in CPS

Author & Year	Location	Methodology	Sample Size	Selected Findings
Loman, 2005	Missouri 14 demonstration counties & 14 comparison counties,	Secondary data analysis	demonstration n=3,313; 30% investigated comparison n=3,087; all investigated July 1995 through July 1997	Initiating events: Sexual abuse, 737 perpetrators severe physical abuse, 69 perpetrators Less severe physical abuse, 180 perpetrators 738 families selected from those with initiating events investigated & substantiated Arrest data indicate: More arrests in demonstration areas More arrests in 10 day period after event No difference in arrests for unrelated or indirectly related offenses
Shusterman, Hollinshead, Fluke, & Yuan, 2005	NCANDS 2002 data for 6 states (KY, MN, MO, NJ, OK, WY) with DR & traditional paths.	Secondary data analysis	n=318,838	DR path more likely: Non-professional & school reporters Lower risk cases No allegation of sexual abuse Older child No prior CPS history Living w/family; not in foster/institutional care Multiple children included in report History of caretaker drug abuse Use of DR increasing or stable over time Referrals to DR ranged from 20% to 71% Those in DR path not at any greater risk for subsequent reports than those in traditional investigation path No strong differences in DR & investigation paths for: Race, ethnicity, child gender Presence of family violence Rate of recurrence within 6 months
Loman & Siegel, 2004	Missouri Family Assessment & Response System (FAR) 14 small- and medium-sized counties, 14	Quasi-experimental July 1993 through November 2002	demonstration n=4,110 comparison n=3,601	Cost-neutral implementation – large caseloads & limited resources FAR families Lower re-referral rates Underlying risk level factors more important in explaining re-referral than any differences produced by the FAR approach

Author & Year	Location	Methodology	Sample Size	Selected Findings
	matched comparison counties and selected zip code areas in St. Louis city and county with matching zip code areas			Received greater number of services Received services earlier Greater number of removals & placements for FAR families in lower 3 of 4 risk levels FAR most helpful for families needing short-term, immediate assistance with basic needs Chronic child abuse & neglect (received 3 or more referrals in 5 year study period) not affected by FAR or investigation approaches
English, Wingard, Marshall, Orme, & Orme, 2000	Washington State	referrals diverted to Community Based Alternative Response System (CBARS) 1992 to 1995	n=1,263	Washington Risk Model (WRM) used for decision-making & prioritization of services to highest risk CPS cases Risk levels & severity inappropriately high for some referrals to CBARS Re-referral: No difference in family with or without service Higher rate in presence of domestic violence or substance abuse No difference in severity of re-referrals More likely to re-refer with prior CPS history No differences in placements whether services received or not

The Differential Response Model

In the traditional medical-legal model of CPS practice (Figure 1), all screened in referrals are investigated in a process that has been viewed as adversarial, intrusive, and inappropriate for some referrals (English et al., 2000; Schene, 2001; Waldfogel, 1998). The DRM (Figure 2) of CPS practice emerged in the 1990s as an alternative to the traditional model in response to the large volume and complexity of referrals for alleged maltreatment and calls for reform of CPS practice (Merkel-Holguin et al., 2006; Sawyer & Lorbach, 2005a, 2005b; Schene, 2001; Waldfogel, 1998, Yuan, 2005). Alternative response, multiple response, family assessment response, and other names have been used as names for differential response. There is movement to focus on the DR label as it is indicative of CPS responses that treat referrals differentially based on assessment of needs in each case (CWIG, 2008; Schene, 2005). In a national study of CPS practices (U.S. DHHS, 2003), alternative responses were defined "as a formal response of the agency that assesses the needs of the child or family without requiring a determination that maltreatment had occurred or that the child is at risk of maltreatment" (U.S. DHHS, 2003, p. 3). The National Study on Differential Response in Child Welfare (Merkel-Holguin et al., 2006) utilized the following as core elements in the DRM:

1. The use of two or more distinct CPS response paths, such as investigation or family assessment, for referrals that are screened in for CPS response.

2. Path assignment is based on the levels of danger, risk, prior CPS reports, report source or other case or child characteristics such as child age or type of maltreatment. Low to moderate risk cases are typically assigned to a non-investigation path
.

3. Initial path assignment can be changed if warranted by information obtained in an investigation or assessment.

4. CPS use of differential pathways is formalized in statute, policy, or protocols.

5. Acceptance of services for families in non-investigation paths is voluntary if child safety will not be compromised by refusal of services.

6. There is no formal determination, or substantiation, of maltreatment for cases in non-investigation paths, and there is no entry of a victim in a central registry.

7. In non-investigation paths, a perpetrator is not identified so there is no entry of a perpetrator in a central registry.

Central to the DRM are criteria including assessment as an alternative to investigation, collaboration with the family, family voluntariness, focus on responding to identified needs rather than victim identification and perpetrator punishment, and collaboration with community resources (Conley, 2007; CWIG, 2008; Kaplan & Merkel-Holguin, 2008). In addition to the core criteria, values underlying the DRM have been identified (Kaplan & Merkel-Holguin, 2008; Merkel-Holguin et al., 2006). The DRM values recognize flexibility in responding to referrals and engagement of and collaboration with the family, community members, and service organizations. In contrast to the traditional investigation path, the non-investigation path focuses on assessing family needs with engagement and encouragement rather than use of an adversarial and threatening approach. The goal is to identify needed services and support rather than to identify a victim and punish a perpetrator (Conley, 2007).

A generic DRM, as depicted in Figure 2, includes a non-investigative path in addition to the traditional CPS investigation path as a possible response to *screened in* referrals. Initial screening of referrals identifies levels of child maltreatment risk

and directs high risk referrals to the investigation path and low to moderate risk referrals to alternative or non-investigative paths. The non-investigative path includes some form of family assessment in which safety, risk, and family strengths, needs, and resources are assessed. CPS DR findings may be assigned to disposition categories such as *alternative response, non-victim*; *alternative response, victim*; or *maltreatment indicated* or *not indicated* (U.S. DHHS, 2011a). CPS responses to these assessments may include determinations that no services are needed, voluntary services are recommended, or services are needed. The family may decline or agree to *voluntary* services. If the family refuses *needed* services, the case may be changed to the investigative path (Kaplan & Merkel-Holguin, 2008). In both the traditional and DR models, CPS practice is directed toward successfully meeting child safety, well-being, and permanency goals (CWIG, 2008; Kaplan & Merkel-Holguin, 2008).

Maltreatment Substantiation

Given the DR core element that there is no formal determination or substantiation of maltreatment in the non-investigative path, it is important to understand the literature regarding child maltreatment substantiation. Even in the presence of moderate to severe harm or risk of harm, substantiation of maltreatment is unlikely to occur unless there is sufficient evidence such as documentation of medical or physical data, child reports, perpetrator admission, or eyewitness reports (Coohey, 2007; Cross & Casanueva, 2009; Drake, 1996; Fakunmoju, 2009). Many factors influence CPS decision-making, and may have independent as well as interactive effects. Evidence of maltreatment was found to be a significant predictor

for substantiation, regardless of maltreatment type (Cross & Casanueva, 2009). However, the literature shows that decision-making based on evidence alone is not necessarily reflected in CPS practice (English, Marshall, Coghlan, Brummel, & Orme, 2002). Other factors found to be significant in the substantiation decision include prior report of maltreatment (Coohey, 2007; English, et al., 2002; King, Trocme, & Thatte, 2003), referral source (English, et al., 2002; King, et al., 2003), and parental cooperation (Coohey, 2006; King, et al., 2003). Type of maltreatment was not a significant factor (King, et al., 2003); and frequency, duration, and severity of the abuse were not found to be significant factors by Coohey (2006). Based on caseworker interviews, chronicity of abuse was found to be a significant factor in the decision to substantiate a case. Similarly, the absence of chronic maltreatment was the most important consideration in not substantiating a report (English, et al., 2002). Drug or alcohol use and prior CPS involvement were significant factors for substantiation of child maltreatment in a study of exposure to domestic violence (EDV) (Coohey, 2007).

The literature on disproportionalities in substantiation is somewhat contradictory regarding the effects of various factors such as child sex, age, race, ethnicity, and poverty. For example, substantiation was more likely for females and children aged 6 to 10 years in one study (Cross & Casanueva, 2009), but sex was not significant in other studies (English, et al., 2002; King, et al., 2003). Hispanic children were more likely to be substantiated according to the results of an NIS-3 study (King et al., 2003); whereas a study in the state of Washington found Native Americans more likely and Caucasians less likely to be substantiated (English, et al.,

2002). In two studies, household income was associated with the substantiation decision (Cross & Casanueva, 2009; King, et al., 2003).

In comparing maltreatment re-reporting rates for substantiated and unsubstantiated children, researchers using National Survey of Child and Adolescent Well-Being Research Group (NSCAW) data found no statistical difference in the rates (Kohl, Jonson-Reid, & Drake, 2009). Analysis of administrative data obtained from the Missouri Division of Family Services also found little difference in maltreatment re-reporting rates for substantiated children compared to unsubstantiated children (Drake, Jonson-Reid, Way, and Chung, 2003). Similarly, another study of 806 children and their adult caregivers revealed no statistically significant differences between substantiated and unsubstantiated children for any of the outcomes measured including maltreatment recurrence, developmental skills, mental health, and behavior problems such as delinquency (Hussey, et al., 2005). The authors concluded that there is little evidence of distinction between substantiation status and unsubstantiation, and that unsubstantiated reports should not be dismissed as they do not represent the absence of maltreatment. Other studies also recognize that defining child maltreatment in terms of legal criteria and CPS investigation data is inadequate for assessing the scope and magnitude of the problem and significantly underestimates the incidence and prevalence of child maltreatment (Coohey, 2007; Cross & Casanueva, 2009; Crume et al., 2002; Everson et al., 2008; Hussey et al., 2005; Kohl et al., 2009; Runyan et al., 2005; Sedlak et al., 2010; and Swahn et al., 2006; Theodore et al., 2005). It is possible that the use of substantiation for screening,

investigation, or service provision may leave many actual and potential maltreatment victims unrecognized and consequently unprotected and underserved. There is some indication that substantiation may be useful in that it provides the means to invoke mandated services (Drake & Jonson-Reid, 2000). However, the DR model makes it possible to provide services without meeting evidentiary requirements for substantiation.

Maltreatment Recurrence

In both the traditional and DR models of CPS practice, efforts are directed toward successfully meeting child safety, well-being, and permanency goals (CWIG, 2008; Kaplan & Merkel-Holguin, 2008). Maltreatment recurrence is one outcome measure of child safety in the federal Child and Family Services Reviews (CFSR) for evaluation of CPS performance. For CFSR, maltreatment recurrence is defined as a subsequent report of substantiated maltreatment in the six months following a substantiated report of maltreatment (U.S. DHHS, 2011a). The national standard for CPS performance is 94.6% absence of maltreatment recurrence. In FFY 2010, 27 states met this standard (U.S. DHHS, 2011a).

For the 14 states reporting DR dispositions to NCANDS, five states (LA, NY, OK, WA, & WY) did not meet the national standard in FFY 2010 (U.S. DHHS, 2011a). However, the report did not distinguish between recurrence in investigation and non-investigation paths. A study of 2002 NCANDS data from 6 DR states (KY, MN, MO, NJ, OK, WY), found that children in the non-investigation path (n=140,072) did not differ significantly from children in the investigation path (n=173,766) in rate of recurrence within six months (Shusterman et al., 2005). Though trajectory

analysis showed no significant difference in re-reporting rates, proportional hazards analysis of NCANDS data for 2004 and 2005 found a very small decrease in relative risk for re-reporting for children with neglect in the non-investigation path compared to those in the investigation path (Ortiz, Shusterman, & Fluke, 2008). Examination of North Carolina CPS administrative data from July 1996 to December 2005 in nine pilot DR and nine matched control counties showed a significantly lower rate of recurrence for the DR path (Lawrence et al., 2011). An earlier evaluation report noted declines in recurrence and re-assessments for 2000-2004, but indicated that the change could not be attributed to the DR system (Center for Child and Family Policy (CCFP), 2006).

The Family Assessment and Response (FAR) DR demonstration project in Missouri involved 14 small- and medium-sized counties, 14 matched comparison counties and selected zip code areas in St. Louis city and county with matching zip code areas (total n=7,711). Final evaluation results after five years indicated that re-referral rates were lower for the FAR group than for the control group. However, underlying risk level factors were more important in explaining re-referral than any differences produced by the FAR program (Loman & Siegel, 2004). Impact evaluation of Minnesota's FAR project in 20 counties from 2001-2004 also showed that families (n=1,299) in the matched control group were 28% more likely to have new reports and re-reports compared to families (n=2,732) in the family assessment path (Siegel & Loman, 2006). California's DR program, Another Road to Safety (ARS) has three tracks with Track 1 targeted to families in high-risk zip codes whose referrals are screened out of CPS. Survival analysis of the ARS Track 1 in Alameda

county from May 2002 to February 2008 showed no statistically significant differences in the treatment group (n=134) and the comparison group (n=511) for likelihood of re-report (Conley & Berrick, 2010). The evidence regarding maltreatment re-referral, re-reporting, and recurrence rates under DR non-investigation paths is mixed. Further consideration and research are required to disentangle DR outcomes and paths given the methodological differences, issues of selection and surveillance bias, and limited generalizability of current studies.

Service Provision and Differential Response

Central to DRM core criteria and values is the focus on assessment of family strengths and needs and the provision of voluntary services through engagement of and collaboration with the family, community members, and service organizations (Kaplan & Merkel-Holguin, 2008, Merkel-Holguin et al., 2006). This is in contrast to the traditional CPS model that focuses on investigation to identify and protect a victim and identify and mandate services for, and/or prosecution of, the perpetrator. Assessment outcomes in non-investigation paths may include CPS findings that no services are needed, voluntary services are recommended, or services are needed. The family may refuse or accept voluntary services, but refusal of needed services may result in a change to the investigation path (Kaplan & Merkel-Holguin, 2008; Merkel-Holguin et al., 2006).

There are variations in services recommended and provided for families in the non-investigation path (Casey Family Programs, 2011c). The most frequently recommended services are those related to economic hardship and include assistance with housing, employment, money, and transportation (National Quality

Improvement Center on Differential Response in Child Protective Services (NQIC, 2009). Medical and dental services are the least frequently offered and are offered in DR in only a few states (Casey Family Programs, 2011c; NQIC, 2009). Substance abuse treatment, family counseling, child care, and parenting classes are services that are frequently offered when available in a DR state (NQIC, 2009). Some states also offered services categorized as "other" including family conferencing, domestic violence counseling, anger management, or mental health services (NQIC, 2009).

In a few studies, families in the non-investigation path received a greater number of services at greater frequency than those in the investigation path (Loman & Siegel, 2004; Shusterman et al., 2005; Siegel & Loman, 2006). In-home services were provided more frequently and removal/placement services less frequently to families in the non-investigation path in a study of DR in six states (Shusterman et al., 2005). For referrals with allegations of neglect, families in the non-investigation path received services at least as often as those in investigations in which neglect was substantiated (Ortiz et al., 2008). In Minnesota referrals for neglect, 54% of non-investigation path families received a specific service compared to 36% of families in the control group who were in the investigation path (Ortiz et al., 2008).

An early study of differential response in Washington State (English et al., 2000) found there was no difference in re-referral rates for families who received services and those who did not receive services. For families in the Missouri FAR non-investigation path, services needed were delivered earlier than for families in the investigation path (Loman & Siegel, 2004). However, it was noted that the FAR

demonstration project was affected by its cost neutral implementation resulting in large caseloads and limited resources (Loman & Siegel, 2004). Under the North Carolina Multiple Response System (MRS) in nine pilot and nine control counties, services were also delivered earlier for families in a non-investigation path (Lawrence et al., 2011). This front-loading of services was associated with a modest decrease in the rate of re-reporting (CCFP, 2006; Lawrence et al., 2011). Of note is that a significant proportion of the NC MRS families receiving services indicated that the services were not very useful in improving family functioning (Lawrence et al., 2011). Analysis of interaction effects in the Minnesota FAR program suggested that the way families were approached was an important factor in decreasing maltreatment re-reports when controlling for services delivered (Siegel & Loman, 2006). Findings also suggested that increased contact with CPS worker and increased length of service delivery contributed to decreased re-reporting (Siegel & Loman, 2006).

Zielewski and Macomber (2007) noted that DR systems are based on assumptions that services are available and accessible and that families connect to services through service networks. A small study of DR in one urban and one rural county each in Oklahoma and Kentucky identified service network infrastructure, service availability, referral and follow-up processes, approaches to families, and service facilitators as factors that could affect families' connections to services (Zielewski, Macomber, Bess, & Murray, 2006). Though follow-up of referred families rarely occurred, it was more likely to occur in families referred for intensive services. Gaps were noted in rural availability of counseling, domestic violence shelters, and

substance abuse treatment, especially long-term residential programs. Barriers to obtaining available services included timing, location, cost, and transportation. Transportation issues were particularly acute in the rural counties (Zielewski & Macomber, 2007; Zielewski et al., 2006).

Factors Related to Differential Response

Although state DR systems may have similar basic ideals, there are substantive differences in DR practice based on state laws, agency regulations, and local agency practices (e.g., see Table 1). In eight states DR is mandated by state statute, but the laws may not specify details such as path assignment (NQIC, 2009). Local CPS agencies may establish their own guidelines or protocols. As noted, flexibility in CPS response to referrals is an underlying value of the DRM. One of the core criteria for the DRM is path assignment based on the assessment of factors including level of danger, risk, prior CPS reports, report source or other case or child characteristics such as type of maltreatment or age of the child.

Risk assessment is a critical function of CPS agencies statutorily mandated to identify children who have been maltreated or are at risk of harm from maltreatment (CAPTA, 2010, § 5106; U.S. DHHS, 2011a). With constraints on funding and resources, risk assessment has also been used for CPS service allocation targeted to children and families with higher risk levels (Camasso & Jagannathan, 2000; D'Andrade, Benton, & Austin, 2005). In broader contexts, risk assessment offers screening tools for front-line personnel in health care, education, and law enforcement who may have greater exposure to potential victims or perpetrators. In

DR systems, path assignment is dependent on the assessment of risk levels with low to moderate risk cases typically assigned to a non-investigation path.

Although various factors, such as poverty, poor parenting skills, parent substance abuse, child disability, or intimate partner violence (IPV), have been linked to increased maltreatment, there is no single factor or set of factors that has been identified as causative (Ashton, 2004; Connell, Bergeron, Katz, Saunders, & Tebes, 2007; English et al., 2002; Leeb, Paulozzi, Melanson, Simon, & Arias, 2008; NSCAW Research Group, 2002; Ryan, Wiles, Cash, & Siebert, 2005; Theodore, Runyan, & Chang, 2007). The contribution of risk factors may vary based on type of maltreatment, age, race/ethnicity, and other characteristics such as the presence of child disability or temporality issues (Algood, Hong, Gourdine, & Williams, 2011; Black, Heyman, & Slep, 2001; Campbell, Cook, LaFleur, & Kennan, 2010; Connell et al., 2007; Coohey, 2007; Lee, Guterman, & Lee, 2008; Palusci, 2011; Schumacher, Slep, & Heyman, 2001; Slack et al., 2011; Stith et al., 2009). Table 5 presents selected examples of child maltreatment risk literature.

Table 5

Selected Publications Regarding Child Maltreatment Risk Assessment

Author & Year	Location	Methodology	Sample Size	Selected Findings
Palusci, 2011	National CPS database 2003-2007 18 states	constructed cohort of confirmed abuse or neglect	n = 177,568	34,211 had 2nd confirmed report 2003-2007 Increased risk for 0-4 yrs of age: drug/alcohol/ narcotic exposure child medical problems intra-familial violence receiving public assistance inadequate housing Family support services associated with decreased recurrence
Slack, Berger, DuMont, Yang, Kim, Erhard-Dietzel, & Holl, 2011	Fragile Families and Child Wellbeing (FFCW) in multiple large U.S. cities; Healthy Families New York (HFNY); Illinois Families Study-Child Wellbeing (IFS)	3 separate longitudinals for multivariate logistic regression analyses; probabilistic low-income families w/young children FFCW is population-based birth cohort. HFNY is randomized control trial. IFS is panel study. Parent-Child Conflict Tactics Scale & review of CPS official records	N=1622	Predictive of CPS neglect determination: receiving public benefits seeking financial help from family food pantry use utility shut-offs parental depression child health problems parental drug use parental stress
Algood, Hong, Gourdine, Williams, 2011.	Review of studies from 1980 to 2010	ecological systems approach Focus: maltreatment of children with developmental disabilities		Risk factors: child age – greater risk at younger age males more likely to be abused enrollment in special education – more likely to be abused/neglected by parent physically punitive parenting insecure attachment parenting stress

Author & Year	Location	Methodology	Sample Size	Selected Findings
				limited social support low socioeconomic status
Campbell, Cook, LaFleur, & Keenan, 2010	Longitudinal Studies of Child Abuse and Neglect (LongSCAN) 4 urban sites: Baltimore, Chicago, Seattle, San Diego 1 statewide site: North Carolina	retrospective cohort of high risk children at ages 4 to 8 years	n = 595	Compared children with CPS investigation to children without CPS investigation and found no difference in modifiable risk factors. More maternal depressive symptoms in the investigated group
Stith et al., 2009	Review	Meta-analysis review 155 studies of physical abuse & neglect risk factors	155 studies 39 risk factors for physical abuse 22 risk factors for neglect	Physical abuse strongest effect sizes for parent anger/hyper-reactivity, high family conflict, and low family cohesion. Neglect strongest effect sizes for parental stress, self-esteem. Parental competency, unemployment and family size.
Lee, Guterman, & Lee, 2008	Fragile Families and Child Wellbeing Study (FFCW) in multiple large U.S. cities	Interviews Proxy for physical child abuse: Parent-Child Conflict Tactics Scales and 2 questions regarding spanking in the last month	n = 1257 married or cohabiting biological fathers participating in the FFCW	Differential risk associations with ethnicity. Father's employment/income not significant. For African American fathers a cohabiting relationship was linked to less physical aggression and less spanking Buffering effects: Older paternal age at child birth
Connell, Bergeron, Katz, Saunders, & Tebes, 2007	Rhode Island and National administrative dataset for 2001-2004.	Secondary data analysis: Cox proportional hazards model	Final sample n = 22,584	Increased risk for re-referral to CPS: age 0-1 year Caucasian and ethnicity other than African American or Hispanic history of prior substantiated maltreatment child with disability history of child welfare involvement for alcohol or drug use family poverty or financial difficulty substantiated case receiving post-

Author & Year	Location	Methodology	Sample Size	Selected Findings
				investigation services
Schumacher, Slep, & Heyman, 2001	Review of empiric literature through April, 1998	Focus – child neglect	Included 10 of 619 articles retrieved	Very large effect size for risk related to maternal-child task interaction Moderate to strong effects between neglect and self-esteem, impulsivity, substance abuse, lack of social support, daily stress Other risk factors for child neglect: parent-child interaction less in quantity and quality poverty residing in urban counties >1,000,000 population
Black, Heyman, & Slep, 2001	Review of empiric literature through April, 1998.	Focus – child physical abuse	Included 42 articles and 4 books	Moderate to strong risk for physical abuse: parent history of being abused as child less family social support young age of parent(s) paternal alcohol use living in impoverished area maternal distress/ incompetence/depression impulsivity harsh parenting child's behavior problems negative attributions

Two primary risk assessment approaches are the actuarial model based on empirically validated risk factors, and the consensus model based on clinical expertise and judgment (Baird & Wagner, 2000; D'Andrade et al., 2005). There has been debate in the literature regarding which approach is most effective for risk prediction and CPS decision-making (Baumann, Law, Sheets, Reid, & Graham, 2005, 2006; D'Andrade et al., 2005; Johnson, 2006; Ryan et al., 2005), though there is evidence that the actuarial approach is more accurate in risk-level classification (Baird & Wagner, 2000; D'Andrade et al., 2005). There are 11 states (see Table 1) with DR that have indicated use of risk assessment or structured decision-making tools (Casey Family Programs, 2011a). There is significant variation in the development and application of tools at state, agency, and worker levels (Kaplan & Merkel-Holguin, 2008; NQIC, 2009).

In addition to risk, criteria for assignment to a non-investigation path vary from state to state with some states precluding non-investigation path assignment based on alleged maltreatment referral that includes criminal behavior, sexual abuse, severe physical abuse, or severe physical neglect (NQIC, 2009). Other considerations in assignment to a non-investigation path may include risk of future maltreatment, prior CPS reports, child's developmental delay or physical impairment, caregiver's mental health, domestic violence, or substance abuse (Merkel-Holguin et al., 2006; NQIC, 2009). A DR path is included for screened out referrals in only five states (FL, HI, MO, TN, WY) (NQIC, 2009).

There are significant differences in the proportion of referrals assigned to a DR path. Among states reporting CPS data to NCANDS (see Table 1), the

proportion of children in a DR path ranged from 0.3 per cent in Wisconsin to 75.1 per cent in North Carolina (U.S. DHHS, 2011a). Children and families who received a non-investigation response were similar demographically to those who received an investigation response (Conley & Berrick, 2010; CWIG, 2008; Shusterman et al., 2005). However, younger children were more likely to receive an investigation response (English et al., 2000; Ortiz et al., 2008; Shusterman et al., 2005). Assignment to a non-investigation path was more likely for children living at home than for children in foster care or an institutional facility (Shusterman et al., 2005). Families with more than one child included in the referral were more likely to be assigned to a non-investigation path except in Minnesota which assigns greater risk when more than one child is involved (Shusterman et al., 2005). It is unclear if the number of children in the referral was also a function of the type of maltreatment alleged as sexual and severe physical abuse referrals may include a single child and referrals for neglect may involve multiple children in the family.

The type of alleged maltreatment is a factor in distinguishing DR paths. Referrals for alleged sexual abuse were rarely assigned to a non-investigative path (Shusterman et al., 2005). Allegations of neglect, medical neglect or emotional abuse were more likely to be assigned to a non-investigation response (Shusterman et al., 2005). This is consistent with the DR core criterion that path assignment includes consideration of the severity of the allegations with the non-investigation path appropriate for referrals of less serious forms of maltreatment. However, in an early study (English et al., 2000), risk levels and severity were inappropriately high

for some referrals to the Community Based Alternative Response System (CBARS) in Washington State.

Though history of prior CPS reports does not specifically preclude assignment to a non-investigation path, the number of prior reports and type of maltreatment in the prior report are additional considerations in path assignment (Kaplan & Merkel-Holguin, 2008). A referral with the presence of a prior CPS report is less likely to be assigned to a non-investigation path (Shusterman et al., 2005). Analysis of NCANDS data showed substantial variation among states. In Missouri and Minnesota, none of the non-investigation path children had prior CPS reports. In New Jersey, assignment to a non-investigation path was just as likely as assignment to an investigation path for children with prior CPS report. Only 7 per cent of Oklahoma and 16 per cent of Kentucky referrals with prior CPS report were assigned to the non-investigation path (Shusterman et al., 2005).

The source of referral to CPS significantly differs for DR paths. An early study in Washington State (English et al., 2000) showed educators and other social services professionals were the only referral sources for children in the CBARS path. Children in non-investigation paths were more likely to have been referred to CPS by non-professional reporters such as parents, relatives, or friends (Ortiz et al., 2008; Shusterman et al., 2005). Referrals from professional sources such as medical and nursing, legal, educational, and social work personnel were more likely to be assigned to an investigation path (English et al., 2000; Ortiz et al., 2008; Shusterman et al., 2005).

Community Factors and Maltreatment

Community social, economic, and demographic characteristics provide indicators of the health and well-being of communities and community residents. Some of these characteristics have been associated with child maltreatment. Community has been defined variously in terms of neighborhoods, census blocks, census tracts, postal zip codes, counties, or other geopolitical boundaries. Coulton, Korbin, Chan, and Su (2001) found that social indicator values differed when comparing neighborhood based on census boundaries to neighborhood based on residents' perceptions of what constituted their neighborhood. Analyses of census tracts in Charlotte, NC found determinations of child abuse, but not child neglect, associated with census tracts having higher poverty, more single female heads of households, and larger Black population (Paulsen, 2003). In suburban Montgomery County, Ohio, census tract analyses demonstrated child maltreatment rates were associated with economic disadvantage, residential instability, and the interaction of these two variables (Ernst, 2001).

Neighborhood instability, measured by home vacancy rates and owner occupancy rates were not significant for child abuse or neglect (Paulsen, 2003). However, other studies (Coulton, Korbin, Su, & Chow, 1995; Ernst, 2000, 2001) found residential instability associated with higher maltreatment rates. Unemployment rate (Freisthler, Midanik, & Gruenewald, 2004) and density of alcohol outlets were also associated with child maltreatment rates (Freisthler, 2004; Freisthler, Gruenewald, Remer, Lery, & Needell, 2007).

Census tracts were used to represent neighborhoods in a Los Angeles County, California, study of early care and education resources and child maltreatment in children 0 to 5 years of age (Klein, 2011). Spatial regression models showed lower rates of child maltreatment referrals and substantiations in neighborhoods with a higher percentage of 3 to 4 year olds in preschool or nursery school and lower rates of child maltreatment referrals in neighborhoods with higher availability of licensed child care. Higher rates of child maltreatment were associated with neighborhood socioeconomic disadvantage, ethnic heterogeneity, and inadequate resources for child supervision. In three California counties, spatial regression analysis of substantiated reports of child maltreatment showed higher rates of maltreatment in census-tract neighborhoods with higher levels of poverty, female heads of household, Hispanic population, and population loss (Freisthler, 2004).

Data collected in the Strong Communities for Children in the Golden Strip initiative in Greenville County, South Carolina, an urban and rural county, were analyzed using census block groups to represent neighborhoods (McDonell & Skosireva, 2009). Neighborhood distress was a significant predictor of child physical and sexual abuse, but not a significant predictor of child neglect. Observed neighborhood characteristics predictive of substantiated child maltreatment included neighborhoods with more abandoned or boarded up dwellings, fewer indicators of cultural traditions, and fewer indicators of organized neighborhood life (McDonell & Skosireva, 2009).

Multivariate analysis of county-level data for Iowa, considered a rural state, showed reported and substantiated child maltreatment significantly associated with rates of single-parent families, divorce, and elder abuse (Weissman, Jogerst, & Dawson, 2003). Socioeconomic factors and presence of health care resources were not significant predictors of child maltreatment reporting or substantiation. One study focusing on neglect subtypes, race, and poverty found that community-level factors associated with poverty appeared to influence case outcomes (Jonson-Reid, Drake, & Zhou, 2013). The majority of Black children, compared to slightly over half of White children, were from households with a history of poverty. Even with adjustment for family income, Black children in the child welfare system lived in much poorer communities than White children. There has been comparatively little investigation of the impact of community factors on CPS service decisions and outcomes.

Gaps in Differential Response Literature

Though the literature and evidence base regarding DR continue to evolve and accumulate, there are substantial gaps in the knowledge base. The effects of jurisdictional variations in DR implementation are not well described. Mixed results of modest statistical significance regarding DR indicate the need for further knowledge to identify and disentangle factors affecting DR implementation at multiple levels. It is not known whether any findings result from child, family, case, worker, community, or other factors individually or in interactive processes. It is not known whether any positive outcomes in the non-investigative DR path result from

assignment to a non-investigative path, services provided, attributes of the interaction between family and caseworkers, or other factors.

Collaboration with community resources and services is a significant core element of the DRM. However, the role of nurses as collaborators with CPS and child welfare has not been investigated beyond the possible limited function as a member of a child protection team, normally based within an inpatient hospital facility. The literature regarding child maltreatment and nursing is primarily limited to the nurse's knowledge of signs, symptoms, and reporting requirements. Beyond mandated reporter status, there is no examination or explication of the role of nurses in DR practice models or as community resources.

Though CPS agencies are generally organized at the county level, the effects and relationships of county-level community factors to DR are largely unknown. The current study sought to fill this knowledge gap by identifying and describing county-level factors and their relationships to CPS pathways in the DRM. These factors will be further examined to determine their significance while controlling for variables at the state, child, family, and case levels.

CHAPTER 3

METHODOLOGY

This study used an existing national dataset from the National Child Abuse and Neglect Data System (NCANDS) for secondary data analysis. The U.S. DHHS Administration for Children and Families, via the Children's Bureau of the Administration on Children, Youth and Families (ACYF), administers the NCANDS. Federal legislation (CAPTA, 1988) established NCANDS as a national center for the collection and analysis of data voluntarily reported by the States, Puerto Rico, and the District of Columbia. Amendment to the legislation (CAPTA, 1996) requires all states receiving funds from the Federal Basic State Grant program to report the data. Results are presented in an annual report for the prior FFY, October 1 through September 30. The dataset utilized for this study contains data that were collected retrospectively for FFY 2010 (U.S. DHHS, 2011a).

State data about preventive services, funding, CPS response time, screening staff, and child fatalities are submitted in the Agency File (U.S. DHHS 2011b). The Agency File has 24 data elements and does not contain child-specific information. The NCANDS Child File (U.S. DHHS, 2011c) has 146 data elements with case-level data that is child-specific for children for whom CPS recorded a disposition or case finding. The Child File contains data elements related to report characteristics, child

demographics, maltreatment type, child and caregiver risk factors, perpetrator information, and services provided. There were no case level data on referrals that were screened out by CPS.

Data for county-level community factors were not included in the NCANDS dataset. Data for community variables were collected at the county level, consistent with the county-level identifier in the Child File. Data on social, economic, and demographic indicators at the county level were obtained from the American Community Survey (ACS), an ongoing national survey conducted by the U.S. Census Bureau (2008). Since 2005, the ACS has sampled approximately three million addresses annually. Datasets for single year estimates are available for areas with 65,000 or more people. Beginning in 2010, ACS three-year estimates became available for areas with 20,000 or more people; and five-year estimates became available for areas as small as census tracts and block groups (U.S. Census Bureau, 2008, 2011).

Protection of Human Subjects

As a secondary analysis of an existing administrative dataset, this study did not involve the use, recruitment, or enrollment of human subjects. Children and the subset of maltreated children represent vulnerable populations for whom the researcher must ensure protection through professional and personal accountability and adherence to the principles of respect, beneficence, non-maleficence, justice, fidelity, and veracity. The University of Missouri-Kansas City (UMKC) Institutional Review Board (IRB) ruled that this study was not subject to IRB review. The National Data Archive on Child Abuse and Neglect (NDACAN) at Cornell University,

which houses the archived data, granted the data license for the Child File dataset. The researcher complied with all data license requirements for specific protections for data confidentiality, data security, and acknowledgement of NDACAN and the original data collectors (U.S. DHHS, 2011c).

Population and Sampling

The dataset for this study included children who were referred to CPS and screened in for a CPS response in states with a DR practice model. The sample was taken from the 14 states reporting DR dispositions to NCANDS (see Table 1). In these states for FFY 2010 there were 193,362 DR non-investigation dispositions (8,852 victims; 184,510 non-victims) and 370,898 investigation dispositions (108,212 substantiated; 262,686 unsubstantiated). Counties with less than 1,000 records in the Child File were de-identified by NCANDS. The following were excluded from the sample:

1. States in which DR was not established statewide by 9/30/2008 or states which have had substantive policy or data reporting changes in since 2009. The following DR states were excluded from the sample:

   Minnesota – implemented changes to Statewide Automated Child Welfare Information System (SACWIS) in FFY 2009 and FFY 2010

   Nevada – piloted DR in 3 counties in 2007; implemented in all but 6 counties 2008-2009

   New York – not statewide

   Oklahoma – changes to SACWIS in 2010; ongoing implementation of new practice model and participation in Chadwick Trauma-Informed Systems project

   Tennessee – implemented new SACWIS in 2010

   Vermont – not statewide until 2010 or later

Washington – implementation of new intake type FFY 2009 resulting in ongoing fluctuations in NCANDS reporting

Wisconsin – DR pilot in 5 counties FFY 2010

Wyoming – no DR in 6 counties & substantive legislated changes October 2009

2. De-identified counties.
3. Records indicating child was prior victim of child maltreatment.
4. For reports including multiple children in the family, one child was randomly selected for inclusion in the analyses.

After excluding states as noted above, five states (KY, LA, MO, NC, VA) and 98 counties remained for inclusion in the analyses. Table 6 contains information about these states, the number of counties for analyses, and the number of children in the DR and traditional paths.

Table 6

U.S. States with CPS Differential Responses for Inclusion in Analyses

State	1st Year DR	Number Counties Available For Analysis	Total Number in DR path	Total Number in Traditional Investigation Path	Paths for Screened In Reports	Path for Screened Out Reports	Risk/ SDM tool to Assign Path
Kentucky	2001	15	14,223	34,918	4	No	Yes
Louisiana	1999	12	2,528	19,294	2		SDM
Missouri	1994	12	25,461	25,508	2	Yes	Yes
North Carolina	2001	41	49,654	16,482	2	No	Yes
Virginia	2002	18	25,514	9,482	2	No	Yes
TOTALS		98	117,380	105,684			

Note. Sources: Casey Family Programs, 2011a; NQIC 2009; U.S. DHHS, 2011a.

Measures

The NCANDS Child File report disposition data were used to identify cases for the outcome (dependent) variable, CPS response path, with binary categories of AR (non-investigative) path and the non-AR (investigative) path. Records identified in the NCANDS Child File with report dispositions of *AR victim* or *AR non-victim* were combined and assigned to the AR path. Records in all other NCANDS dispositions were assigned to the non-AR path. Multiple NCANDS variables were removed from study analyses because there were insufficient data reported, or very large percentages of data values were reported as missing or unknown. Variables remaining for analysis included two state-level, twelve county-level, and six child-level variables. Variables included in study analyses are presented in Table 7.

Table 7

Variables Included in the Study

Variable	Type	Level of Measurement	Data Source	Variable Code Name
CPS Response Path				
AR or non-AR	dependent	categorical	NCANDS	RptDispRECODE
Child Characteristics				
Child ID	identification		NCANDS	ChID
Age	independent	categorical	NCANDS	ChAgeREC5
Sex	independent	categorical	NCANDS	ChSexREC
Race	independent	categorical	NCANDS	ChRaceREC3
Report Characteristics				
Report ID	identification		NCANDS	RptID
State of report	location		NCANDS	StaTerr
County of report	location		NCANDS	RptFIPSrec
Report source	independent	categorical	NCANDS	RptSrcREC2
Number children in report	independent	categorical	NCANDS	nChildRec3
Maltreatment type	independent	categorical	NCANDS	ChMalREC4
County-Level Factors				
Number cases in county	independent	categorical	NCANDS	NumCasesREC
Households with public assistance	independent	categorical	ACS	HHpubAsistREC
Household income	independent	categorical	ACS	HHincomeREC
Housing Vacancy	independent	continuous	ACS	HsgVacRate
Unemployment	independent	continuous	ACS	UnemployRate
Child Poverty	independent	continuous	ACS	ChPovRate
Persons with HS, equiv.	independent	continuous	ACS	EducHSorEquivRate
Single-parent households	independent	continuous	ACS	HHsinglParentRate
Population age <18 years	independent	continuous	ACS	Pop0_17yrsRate
Race = White	independent	continuous	ACS	RaceWhiteRate
Race = Black	independent	continuous	ACS	RaceBlackRate
Race = not Black or White	independent	categorical	ACS	RaceElseRate
State-Level Variables				
Years since DR start	independent	categorical	NQIC	StYrREC
Intake level: central or local	independent	categorical	NQIC	IntakeLev

Note. AR = Alternative Response; HS = high school; equiv. = equivalent; NCANDS = National Child Abuse and Neglect Data System; ACS = American Community Survey; NQIC = National Quality Improvement Center on Differential Response in Child Protective Services; DR = Differential Response.

Predictor (independent) variables within the intrapersonal domain included child age (categorized into five levels), sex (*male, female*), and child race (*Black, White, Other*). The number of children included in the report was categorized into three levels (*1, 2, 3 or more*). Type of maltreatment was categorized into four levels (*physical, neglect or deprivation, sexual, or other*). The NCANDS dataset allows for assignment of up to four maltreatment types from the child victim's record. The maltreatment type appearing first in the record is assigned to NCANDS variable Child *maltreatment type 1*; the second type in the record is assigned to NCANDS variable *child maltreatment type 2*; and so on through up to four maltreatment types. The NCANDS variable *child maltreatment type 1* was used for the study variable, *maltreatment type*. Cases identified in NCANDS data as psychological or emotional maltreatment, or unknown were assigned to the *other* level. Report source was categorized into *mandated reporter* or *non-mandated reporter*. *Mandated* reporters included persons required by law to report suspected child maltreatment, such as workers in social services, health, education, and legal professions. *Non-mandated* reporters not required by law to report suspected child maltreatment, included persons such as parents, relatives, friends, neighbors, anonymous persons, and other or unknown persons.

Within the community (exosystem) domain, county variables included number of cases in the county (*<1000 or* $\underline{\geq}$*1000*), median household income (*<$45,000* or $\underline{\geq}$*$45,000*), households receiving public assistance (*<25%* or $\underline{\geq}$*25%*), and race (*Black, White, Other*). Additional county variables included *housing vacancy*, *unemployment*, *child poverty*, *single parent households*, *population from zero to*

seventeen years, and *persons with high school or equivalent diploma*. Variables at the state level included number of years since implementation of DR (*<10* or *≥10 years*) and whether intake level was *central* (reports received in a centralized office at the state level) or *non-central* (reports received in the county CPS office).

Data Analysis

The first step in the analysis strategy for these two massive datasets was to construct a single dataset with study variables and sample. Case selection and exclusion criteria were applied to the NCANDS dataset. Variables were recoded to facilitate analysis and interpretation of results. The NCANDS *Report ID* variable provided identification of reports involving multiple children in a single report. When more than one child in a family was the subject of a report, one child was randomly selected for inclusion in the analyses to allow analyses congruent with the child level of the NCANDS dataset.

Significantly more preparation was required to construct a single dataset from the ACS data files. There were separate ACS data files for each variable in each of the five states. Multiple steps were required to construct a dataset for each state with the data for that state. The five state datasets were merged into one dataset with all ACS variables and data. Multiple calculations were required to assess the reliability of the estimates for the 2008-2010 ACS 3-Year data and to transform and aggregate coefficients from the 90 per cent confidence level reported by ACS to the 95 per cent confidence level for this study. The NCANDS and ACS datasets were then merged to produce one data file for analysis containing 62,499 cases, 98 counties, and five states.

Following data preparation and construction of the study dataset, exploratory data analysis provided preliminary information about the data and sample. Univariate and bivariate analyses provided additional information. However, IBM SPSS Statistics (Version 22) for Windows was unable to process some non-parametric correlational measures because of the large number of cases in the dataset. Pearson correlations for the entire dataset were completed without any problem. A randomly selected small subgroup was used to run Pearson and Spearman correlations. In comparing the subgroup results, there was minimal difference, +/- 0.03, between the two measures. Based on this, the Pearson *r* results for the entire dataset are reported for the study in this manuscript. With CPS response path (*AR, non-AR*) as the only outcome, or dependent variable (DV), and multiple independent variables (IV) measured at the categorical or continuous level, statistical techniques were limited (Mertler & Vannatta, 2005). Binary logistic regression was useful for examining variable relationships in a single level, but did not address data nested in multiple levels. Further analysis of the data required multilevel modeling (MLM) techniques for hierarchical data with the binary outcome variable of CPS response path (AR, non-AR path).

Using the Generalized Linear Mixed Models (GLMM) procedure in IBM SPSS (Version 22) allowed specification of nested levels with the child level (microlevel 1) nested within the county level (macrolevel 2), and child and county levels nested within the state level (macrolevel 3). An unconditional (null) model containing only intercepts was built and examined to assess variance and the need for continuing the MLM procedure. Variabilities of less than 5% demonstrate insufficient variation

to make the MLM procedure worthwhile (Heck, Thomas, & Tabata, 2010). Multiple additional three-level models were constructed and examined for model fit, classification accuracy, variance, and significance of predictor variables.

CHAPTER 4

RESULTS

The final dataset included 62,499 cases, 98 counties, and five states. Multiple NCANDS variables were removed from further analysis because there was insufficient data reported, or very large percentages of data values were reported as missing or unknown. For example, values for perpetrator variables were reported in less than 10% of the cases: age 9.3%, sex 8.9%, race 0%, ethnicity 0%, and perpetrator relationship to the child 6.9%. Child risk and caretaker risk variables were also removed as values were reported in less than 25% and 20% of the cases respectively. Variables remaining for analysis (see Table 7) included two state-level, twelve county-level, and six child-level variables. It is essential to correctly identify measurement level of variables for the advanced multilevel modeling techniques in SPSS (Version 22) in which categorical variables are called factors and continuous variables are called covariates.

Table 8 presents demographic and descriptive results for categorical variables and continuous variables, including case and county frequencies for each state. Of particular note is that North Carolina had 41.8% (n=41) of the counties, but only 10.1% (n=6,334) of the cases. There were nearly equal numbers of cases in the AR path (50.0%, n=31,277) and the non-AR path (50.0%, n=31,222). Reports with only one child reported accounted for 60.9% (n=38,077) of the cases. For

reports with multiple children reported (n=24,422), one child was randomly selected for inclusion in the study. Children under one year of age (n=6,961) and ages one through three years (n=12,645) were 31.3% of the cases. Demographics included slightly more males (50.1%, n=31,321) than females (49.9%, n=31,178) and more White (57.0%, n=35,623) than Black (34.0%, n=21,278) or Other (9.0%, n=5,598) children. The most frequent type of maltreatment reported was neglect or deprivation (41.0%, n=25,623), compared to physical (16.6%, n=10,401), sexual (4.5%, n=2,818), and other forms of abuse (37.9%, n=23,657) including medical neglect, psychological/emotional maltreatment, and other unspecified types of maltreatment. Mandated reporters generated 61.0% (n=38,129) of the reports compared to 39.0% (n=24,370) generated by non-mandated reporters.

Table 8

Demographics and Descriptives for Study Variables

Variable	n	% of total n
Dependent: CPS Response Path		
non-AR	31,222	50.0
AR	31,277	50.0
Factors (categorical)		
Child age		
under 1 year	6,961	11.1
1-3 years	12,645	20.2
4-7 years	14,733	23.6
8-12 years	14,593	23.3
13 years and older	13,567	21.7
Child sex		
Male	31,321	50.1
Female	31,178	49.9
Child race		
Black	21,278	34.0
White	35,623	57.0
Other	5,598	9.0
Number children in the report[a]		
1	38,077	60.9
2	13,854	22.2
3+	10,568	16.9
Maltreatment type		
Physical	10,401	16.6
Neglect or deprivation	25,623	41.0
Sexual	2,818	4.5
Other	23,657	37.9
Report source		
Non-mandated	24,370	39.0
Mandated	38,129	61.0
Number of cases in state		
Kentucky	10,045	16.1
Louisiana	10,669	17.1
Missouri	18,863	30.2
North Carolina	6,334	10.1
Virginia	16,588	26.5
Number of counties in state		
Kentucky	15	15.3
Louisiana	12	12.25
Missouri	12	12.25
North Carolina	41	41.8
Virginia	18	18.4
Number cases in county		
<1000	30,631	49.0
1000+	31,868	51.0

Variable	n	% of total n
Households with public assistance		
<25%	28,066	44.9
25+%	34,433	55.1
Household income		
<$45000	25,960	41.5
$45000+	36,539	58.5
Administrative level of intake office	33,591	53.7
not central	22,922	36.7
central	39,577	63.3
Number of years since DR start		
<10 years	32,967	52.7
10+ years	29,532	47.3

Covariates (continuous)	Minimum	Maximum	Mean	SD
Housing vacancy	4.22	40.98	10.56	3.92
Unemployment	3.12	9.09	5.41	1.37
Child poverty	3.58	44.48	20.48	9.21
Persons with HS or equivalent	13.54	41.82	28.30	6.17
Single parent households	15.34	65.38	36.51	11.67
Population age 0 to 17 year	16.94	30.54	24.16	2.31
White race	31.19	97.37	71.83	15.96
Black race	.49	60.23	20.56	14.99
Not Black or White race	2.07	46.91	9.86	6.44

Note. CPS = Child protective services; AR = alternative response; DR = differential response; SD = standard deviation; HS = high school.
[a]For reports with multiple children, one child was randomly selected for inclusion in the analyses.

The number of cases per county ranged from 50 to 4,060 with 51.0% (n=31,868) in counties with more than 1,000 cases. Median household income ranged from $29,041 to $116,802 with 41.5% (n=25,960) of cases from counties with median household income of less than $45,000. Counties with more than 25% of

the households with children receiving public assistance comprised 55.1% (n=34,433) of the cases. County demographics had divergent levels of unemployment (3.12-9.09%), child poverty (3.58-44.48%), housing vacancy (4.22-40.98%), and education at the high school or equivalent level (13.54-41.82%). County demographics were more widely divergent in levels for single parent households (15.34-65.38%) and race (Black, 0.49-60.23%; White, 31.19-97.37%; non-Black, non-White, 2.07-46.91%).

Bivariate analysis showed multiple variable correlations significant at the $p<.01$ level, with many very weak relationships ($r<.200$). Child poverty was strongly associated with single parent households ($r=.903$), unemployment level ($r=.670$), housing vacancy levels ($r=.757$), households with public assistance ($r=.784$), and median household income ($r=-.706$). Housing vacancy showed moderate to strong relationships to other indicators (single parent housing, $r=.677$; unemployment, $r=.625$; households with public assistance, $r=.547$; Black race, $r=.476$; White race, $r=-.358$, and median household income, $r=-.492$). Significant relationships for unemployment paralleled those of housing vacancy, but at slightly lower levels (single parent housing, $r=.623$; households with public assistance, $r=.467$; Black race, $r=.427$; White race, $r=-.314$, and household income, $r=-.442$).

County-level variance in the unconditional model suggested significant ($p<.001$) variability between counties. Calculation of intraclass correlation (ICC) further suggested that approximately 10.33% of variability in the outcome variable (*AR, non-AR*) was between counties. This demonstrated support for the use of MLM procedures to account for variabilities. Variance components for the unconditional

(null) model, the model with all predictors entered, and the final model are presented in Table 9. Intraclass correlation in the final model suggested that approximately 12.30% of variability in the outcome variable (*AR, non-AR*) was between counties.

Table 9

Variance Components

Effect	MODEL 1: Unconditional Estimate (SE)[CI]	MODEL 2: All Predictors Estimate (SE)[CI]	FINAL MODEL Estimate (SE)[CI]
Residual Variance			
Level 1 (micro: child-level)[a]	1.000	1.000	1.000
Random Variance (Intercept)			
Level 2 (macro: county-level)[b]	0.550* (0.089) [0.401, 0.755]	0.611* (0.105) [0.437, 0.855]	0.588* (0.097) [0.426, 0.811]
Level 3 (macro: state-level)[c]	1.483 (1.075) [0.358, 6.143]	0.717 (0.785) [0.084, 6.137]	0.901 (0.767) [0.170, 4.782]
Prediction Accuracy	69.4%	74.3%	74.4%
Intraclass Correlation			
Level 2 – Between Counties	0.1033	0.1323	0.1230
Level 3 – Between States	0.2786	0.1553	0.1885
AICC	284,236.618	315,908.983	315,678.569

Note. SE = standard error; p = significance; CI = confidence interval; AICC = Akaike Information Criterion Corrected
[a]Covariance structure: scaled identity; subject specification: none
[b]Covariance structure: variance components; subject specification: State*County
[c]Covariance structure: variance components; subject specification: State
*p < .001

The *F* statistic reported in SPSS (Version 22) MLM fixed effects output provides the significance of the independent variables in predicting the outcome variable, CPS response path. Examination of MLM fixed effects (Table 10) showed

multiple nonsignificant (p>.05) variables in Model 2, the initial three-level model with all predictors entered. Multiple models eliminating nonsignificant variables were examined. Nonsignificant variables were retained in some models in attempts to improve model fit. Some variables were significant in some models, but not in other models. The final model contained variables significant (p<.05) in predicting CPS response path, including all child variables (report source, maltreatment type, child age, race, and number of children in the report) except child sex, four county variables (housing vacancy, unemployment, child poverty, and households with public assistance), and one state variable (number of years since DR started).

Table 10

Multilevel Model Analysis: Fixed Effects Statistics

Source	Model 2 F	Sig.	Final Model F	Sig.
Corrected Model	574.08	<.001	620.17	<.001
Level 1 (micro: child-level)				
Report source	6.76	.009	6.77	.009
Maltreatment type	492.85	<.001	503.47	<.001
Number children in the report[a]	5.08	.006	5.07	.006
Child age	356.53	<.001	359.49	<.001
Child sex	0.09	.332		
Child race	5.80	.003	5.99	.003
Level 2 (macro: county-level)				
Number cases in county	0.10	.752		
Housing vacancy	13.11	<.001	15.40	<.001
Unemployment	3.72	.054	8.68	.003
Child poverty	9.55	.002	7.36	.007
Households with public assistance	3.60	.058	6.46	.011
HS diploma or equivalent	15.44	<.001		
Single parent households	1.44	.230		
Population age 0 to 17 years	1.09	.296		
White race	20.33	.154		
Black race	1.38	.241		
Not Black or White race	1.37	.241		
Median Household income	0.03	.855		
Level 3 (macro: state-level)				
Administrative level of intake office	8.02	.005		
Number of years since DR start	2.62	.105	4.79	.029

Note.Sig. = significance; HS = high school; DR = differential response. F = statistic for fixed effects significance testing in binomial probability distribution with logit link function.
[a]For reports with multiple children, one child was randomly selected for inclusion in the analyses.

Fixed coefficient statistics in the final model (Table 11) provide estimates of influence the independent variables have on the outcome variable.

Table 11

Multilevel Model Analysis: Fixed coefficients for the Final Model

Parameter	Coeff.	SE	Sig.	OR	95% CI for OR
Intercept	-0.59	1.06	.579	0.55	[0.07, 4.42]
Level 1 (micro: child-level)					
Report source					
Non-mandated reporter	referent				
Mandated reported	-0.37	0.14	.009	0.69	[0.52, 0.91]
Maltreatment type					
Physical	referent				
Neglect or deprivation	0.87	0.49	.072	2.40	[0.92, 6.22]
Sexual	-4.17	0.80	<.001	0.01	[0.01, 0.07]
Other	2.71	1.90	.153	15.11	[0.36, 627.80]
Number children in the report[a]					
1	referent				
2	-0.02	0.05	.626	0.97	[0.88, 1.08]
3+	-0.19	0.08	.021	0.83	[0.71, 0.97]
Child age					
under 1 year	referent				
1-3 years	-0.01	0.04	.902	0.99	[0.91, 1.08]
4-7 years	0.36	0.09	<.001	1.43	[1.20, 1.70]
8-12 years	0.68	0.11	<.001	1.98	[1.58, 2.48]
13 years and older	0.53	0.17	.002	1.70	[1.21, 2.39]
Child race					
Black	referent				
White	0.15	0.05	.005	1.16	[1.05, 1.29]
Other	0.19	0.08	.017	1.20	[1.03, 1.40]
Level 2 (macro: county-level)					
Housing vacancy	-0.03	0.01	<.001	0.97	[0.95, 0.98]
Unemployment	-0.18	0.06	.003	0.84	[0.74, 0.94]
Child poverty	0.02	0.01	.007	1.02	[1.00, 1.03]
Households with public assistance					
<25%	referent				
25+%	1.02	0.14	<.001	2.78	[2.10, 3.68]
Level 3 (macro: state-level)					
Number of years since DR start					
<10 years	referent				
10+ years	-2.65	1.21	.029	0.07	[0.01, 0.76]

Note. coeff = coefficient; SE = standard error; Sig. = significance; OR = Odds Ratio; CI = confidence interval; HS = high school; DR = differential response. Binomial probability distribution with logit link function.

[a]For reports with multiple children, one child was randomly selected for inclusion in the analyses.

Results indicated that reports by mandated reporters were 31.3% less likely to be in the AR path than reports by non-mandated reporters. Compared to cases of physical maltreatment, the AR path was 98.5% less likely for cases of sexual abuse, 15.1 times more likely for cases of other maltreatment types, and 2.4 times more likely for cases of neglect or deprivation. Reports with three or more children in the case report were 17% less likely to be AR path than case reports with only one child. When compared to children under one year of age, AR path was more likely for those ages 4 to 7 years (43.1% more likely), 8 to 12 years (97.7% more likely), 13 years and older (69.8% more likely), but only slightly less likely for ages 1 to 3 years (0.5% less likely). Compared to Black children, White children were 16.0% and Other children were 20.4% more likely to be in the AR path.

The odds of AR path decreased by 3.2% for every one unit increase in the county housing vacancy level and decreased by 16.3% for every one unit increase in the county unemployment level. However, the odds of AR path increased by 1.7% for every one unit increase in the county child poverty level. Cases in counties with more than 25% of households on public assistance were 2.78 times more likely to be in the AR path when compared to cases in counties with less than 25% of households on public assistance. The odds of AR path decreased by 92.9% for cases in states with DR for 10 or more years when compared to cases in states with DR for less than 10 years.

In the final model, covariance parameters (see Table 9) for the county level were significant (0.588, SE=0.097, p<.001, [0.426, 0.811]); and ICC indicated that approximately 12.30% of variability in the outcome variable was between counties.

The final model fit demonstrated 74.4% overall correct prediction of the outcome variable, an improvement of 5.1% over the unconditional model.

CHAPTER 5

DISCUSSION

The primary objective of this study was to identify the potential significance of county-level community variables in the investigative (non-AR) and non-investigative alternative response (AR) paths of the Differential Response Model of child protective services practice. Results showed that differences exist in child, family, and case characteristics between cases in AR and non-AR paths and that county-level community factors do have significant relationships to AR and non-AR paths in the DRM. The county-level variables for housing vacancy, unemployment, child poverty, and households with public assistance were significant in predicting DRM path. Odds of AR path decreased with increased housing vacancy and unemployment, but slightly increased as child poverty increased. Odds of AR path increased with increased percentage of households receiving public assistance and for referrals in states with DRM in practice less than ten years. Results also suggested that AR path is more likely for cases from non-mandated reporters; children older than three years of age; reports with one child; cases of neglect, deprivation, or other maltreatment type; White and Other children when compared to Black children; and less likely for sexual abuse cases and referrals in states with DRM in practice more than ten years. Using the study results to answer the research questions, it is clear that there are some differences in child, family, and

case characteristics between cases in AR and non-AR paths. It is also clear that some county-level community variables have a significant relationship to the DRM AR and non-AR paths.

Limitations

Given the large number of IVs and very large sample size, it is important to note that the study was well over powered with the potential for results that demonstrated statistical significance without having meaningful clinical significance (Cohen, 1988; Mertler & Vannatta, 2005). Attention to theoretical considerations and the existing literature helped to distinguish trivial statistical significance from meaningful practical significance. As identified in Table 7, there was one categorical outcome variable (DV) with two levels, and multiple predictor variables (IV) measured at the categorical or continuous level.

Statistical techniques for categorical DVs and multiple mixed level IVs are limited (Mertler & Vannatta, 2005). Univariate, bivariate, and binary logistic regression provided information about the variables in each of the levels separately. However, IBM SPSS Statistics (Version 22) for Windows was unable to process some non-parametric correlational measures because of the large number of cases in the dataset.

In recognition of the interactive theoretical model in which variables in each level may influence and be influenced by variables in other levels, study questions required examination of data nested in multiple levels. Multilevel modeling techniques for categorical DVs, such as used in this study and available in IBM SPSS Statistics (Version 22) for Windows, were necessary for the complex

computations required to analyze categorical outcomes of data in multiple levels. It is essential to correctly specify measurement level of each variable for the advanced multilevel modeling techniques in SPSS (Version 22) in which categorical variables are called factors and continuous variables are called covariates. With the use of MLM procedures, multiple possible model solutions may be presented. The researcher assessed multiple models and obtained a final model which best fit the study data, variables considered, and the research questions; but it does not represent the only solution. The use of MLM and identification of fixed effects within the models does not imply causality.

Consideration must also be given to the modifiable areal unit problem (MAUP), which recognizes that results for indicator variables may differ depending on the choice of areal unit (Aron et al., 2010). The dataset for this study provided child level information, but identifying information such as addresses and zip codes were removed prior to release to researchers. Aggregation at the county level was possible by using Federal Information Processing Standards (FIPS) codes for those counties with more than 1,000 records. Counties with less than 1,000 records were de-identified and aggregated into a singular “other” county (U.S. DHHS, 2011c). Utilizing county as the areal level for aggregation may affect reliability and validity of the results, particularly in counties with low populations, greater heterogeneity in the population, or rarity in the occurrence of variables of interest (Aron et al., 2010, Coulton & Korbin, 2007).

It is important to recognize that these results are limited to the study group and cannot be generalized to other groups or populations. The variable

relationships studied relate only to reports of new cases of alleged maltreatment referred to CPS agencies in selected states. No hierarchy of maltreatment types was presumed or applied, and no inferences about co-occurrence of maltreatment type can be made. Though data for NCANDS *maltreatment type* variables were insufficient for examining co-occurring types of maltreatment in the present study, the issue is important and deserves further study.

No inferences can be made regarding substantiation or recurrence of maltreatment, or subsequent reports of alleged maltreatment. Multiple studies show that defining child maltreatment in terms of legal criteria and CPS investigation data is inadequate for assessing the scope and magnitude of the problem and significantly underestimates the incidence and prevalence of child maltreatment (Coohey, 2007; Cross & Casanueva, 2009; Crume et al., 2002; Everson et al., 2008; Hussey et al., 2005; Kohl et al., 2009; Runyan et al., 2005; Sedlak et al., 2010; and Swahn et al., 2006; Theodore et al., 2005). Though the DR model of CPS practice provides the opportunity to recognize and assist children and families in need without official determination or substantiation of maltreatment and without reporting the alleged perpetrator to a central registry, it is possible that the DR model of CPS practice contributes to underestimation of child maltreatment incidence and prevalence, underreporting of suspected maltreatment, and failure to identify repeat perpetrators.

Future Research

Research on DR continues to evolve. Further research is needed to determine the impact of DR models on child maltreatment data and surveillance and

to modify maltreatment definitions to include children who are in fact, if not in law, victims of maltreatment. Results are mixed for evidence regarding the effectiveness of DR and its relationship to variables such as child, caregiver, and case characteristics; worker satisfaction; family satisfaction and engagement; services delivered; and cost effectiveness (e.g., Conley & Berrick, 2010, Loman & Siegel, 2004). Whether the mixed outcomes in DR research result from assignment to a non-investigative path, services provided, attributes of the interaction between family and caseworkers, or other factors is unknown. Such mixed results regarding DR indicate the need for further research to identify and disentangle factors affecting DR at multiple levels.

The study finding that AR path is less likely for referrals in states with DRM in practice more than ten years was unexpected. It is unknown if this finding is a function of systemic, caseworker, or case characteristics. It is possible that streamlined function, more selective screening, funding, resource availability, or other factors are involved. Further research is needed to identify relationships resulting in study findings of increased odds of AR path for child poverty and for increased households receiving public assistance and decreased odds of AR path with increased housing vacancy and increased unemployment. Examination of additional economic measures, such as family and community poverty, with stratification by race and maltreatment type, may help to clarify variable relationships. In addition to housing vacancy and unemployment, there are likely other measures of social disorganization that deserve attention, such as decreased availability of resources for medical, mental health, or social support services or

inability to access available services because of time, money, or transportation barriers.

It is important to identify the impact of these issues and measures within the context of DRM paths and to determine if modifications of county-level community factors can improve community health and have a positive impact on child maltreatment, safety, and well-being. If so, it would make sense to adjust practice to include attention to needs of the communities in which referred children and their families reside. To advance research, inform policy and practice, and produce long-term positive outcomes in child maltreatment prevention and intervention requires attention to and additional research of interactive factors and processes in multiple domains.

Implications

Personal, social, and economic consequences of child maltreatment are significant. Ongoing crises in funding and health care have contributed to evolving policy and service changes with budget cuts and service reductions. Families and their children with actual or potential maltreatment issues may have greater difficulty in accessing resources to meet needs for prevention or intervention. The DR model represents an approach that may foster collaborative relationships with families, CPS workers, and community resources including nurses and other health care professionals. The success of such a collaborative approach may depend on the availability of and access to community resources.

To help children and families in need, it is important that nurses have knowledge of and are able to successfully interact with the evolving child welfare

system. Nurses can play a pivotal role in child maltreatment prevention and intervention efforts. Sensitivity to and understanding of community factors such as employment and poverty levels, housing conditions, and resources available can enhance nursing practice by assisting the nurse in identifying and responding to family needs within the context of the community. The nurse's role is further enhanced not only by identification of resource personnel with expertise in child welfare issues, but also by becoming experts in nursing assessment, planning and intervention for those maltreated or at risk of maltreatment. Collaboration with other resource personnel and agencies can facilitate timely and appropriate management and care for children and families with unresolved and often complex needs. Establishment of relationships and ongoing collaboration with community resources, social services, and CPS agencies are essential functions in helping to protect and support children and families. With engagement of families and community members, policies and practice can be directed at alleviating modifiable risk factors, strengthening protective factors and providing support.

APPENDIX A

UNIVERSITY OF MISSOURI-KANSAS CITY INSTITUTIONAL REVIEW BOARD EXEMPTION

From: barrethr@umkc.edu [mailto:barrethr@umkc.edu]
Sent: Friday, August 31, 2012 2:37 PM
To: Cheng, An-Lin
Cc: Barreth, Rebekah; McCallum, Karen (UMKC-Student)
Subject: Study SS12-146 - NHSR: Community Factors in Differential Responses of Child Protective Services

August 31, 2012

An-Lin Cheng, Ph.D.
UMKC - School of Nursing
Kansas City, MO 64108

RE: SSIRB Protocol #: SS12-146 - NHSR - Community Factors in Differential Responses of Child Protective Services

Dear Dr. Cheng,

Thank you for contacting the SSIRB about your proposed project. The SSIRB's subject matter jurisdiction is limited to research as defined in the Federal Policy for the Protection of Human Subjects - 45 CFR 46.102(d). "Research" is defined by these regulations as " a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge." The regulations define a "Human Subject" as "a living individual about whom an investigator (whether professional or student) conducting research obtains: data through intervention or interaction with the individual, or identifiable private information."

Based upon your description of your project it does not meet the criteria to be considered human subjects research and therefore the SSIRB has no authority to review it.

Please contact the administrative office of the SSIRB (email: umkcssirb@umkc.edu; phone: 816-235-5927) if you have questions.

Thank you,

SSIRB Administrative Office

APPENDIX B

DATA LICENSE: NATIONAL CHILD ABUSE AND NEGLECT DATA SYSTEM CHILD FILE

Data License

Staff | Annual Reports | Data Updates

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816-235-6353
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License Type: NCANDS Child File
License Active? (●) Yes ( ) No
Start Date: 10/5/2012
End Date: 10/5/2015

Termination Notice Received:

License Notes:

( ) No Mailing ( )

10/5/2012

(●) Yes ( ) No

Client Notes

Site Inspections for Restricted Release NSCAW

	Date	Compliant
Site Inspection 1		( ) Yes ( ) No
Site Inspection 2		( ) Yes ( ) No

Research Staff

Serial Number	Staff_Full_Name	Staff_Title	Staff_EMail	Staff Added_Date	Staff Removed_Date
9007	Karen McCallum	PhD Candidate	kemd54@mail.	10/5/2012	
4484	Melissa Jonson-Reid	Assistant Professor	jonsonrd@wu	10/5/2012	

Date Record Last Modified: 10/5/2012

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VITA

Karen McCallum was born and raised in South Texas. After completing her initial Registered Nursing degree, she worked in a pediatric hospital where she became Clinical Supervisor for the Outpatient Department, including general and specialty clinics and the emergency department. While working full-time, she earned the Bachelor of Science in Nursing degree. This included the independent design, implementation, analyses, and reporting for a quantitative research study entitled, "Job Satisfaction Factors for Nurses in a Pediatric Hospital". She prepared reports of the findings and presented these orally and in writing to national organizations including the National League for Nursing.

Ms. McCallum then earned the Master of Science in Nursing degree with Pediatric Nurse Practitioner Certificate while continuing to work in the pediatric hospital. This included the completion of an exploratory field study entitled "School Teachers' Perceptions of Health Problems in School-Age Children from Low Income Families". She developed the semi-structured interview tool, obtained institutional review board approval and other authorizations, recruited participants, collected data, and performed data analyses. Dissemination activities included a poster presentation and oral and written presentations of findings to community and professional audiences. Additional research activities included a prospective longitudinal study entitled, "Compliance with Appointments for Pediatric Ambulatory Care". She completed this study in the dual role of student in the M.S.N. program and Clinical Supervisor of the Outpatient Department in the pediatric hospital with

support of academic advisers and collaboration with hospital officials. She was responsible for all phases of this study. Other research activities included preparation and presentation of multiple case studies.

Within a few years of completing the M.S.N. degree, Ms. McCallum married and relocated. She worked in home health care, quality assurance, utilization review, and education while raising one son. The family relocated to Central Texas and continue to live there. Their son graduated from the University of Texas in Austin, and became gainfully employed. Ms. McCallum then began pursuit of the Ph.D. in Nursing degree at the University of Missouri-Kansas City.

Ms. McCallum is a charter member of Eta Omicron chapter of Sigma Theta Tau International. She is a past member of the National Commission of Licensure Examination-Registered Nursing Panel of Content Experts and has presented written and oral testimony to the National Commission on Nursing. She developed multiple classes and inservice seminars from concept to classroom presentation. She has participated in multiple professional seminars, meetings, and conventions.