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Operational Analysis of Child Protection Investigations During Disasters

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This is to certify that the doctoral dissertation by

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has been found to be complete and satisfactory in all respects,
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Abstract

Operational Analysis of Child Protection Investigations During Disasters

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Master of Science in Criminal Justice and Critical Incident Management

Dissertation Submitted Partial in Fulfillment

of the Requirements for the Degree of

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Abstract

Two decades of research documents the lack of conclusive relationships between child protective investigations and natural disasters. While trends regarding child abuse report generation and natural disaster have been previously explored, those results do not provide generalized conclusions. This study explores the relationship between the Hurricane Irma natural disaster and child abuse report generation of a child protection organization in the state of Florida, while introducing child maltreatment types and child protective investigator response times as contributing factors. Utilizing the emergency management conceptual framework, the purpose of this study is to provide an updated analysis of the child abuse report generation relationship and addresses the additional operational factors of response time and child maltreatment types. Research questions addressed the Pasco County Child Protection Division as a machine with input and output variables to explore the influence of the number of reports and maltreatment type on investigator response times. A quasi-experimental interrupted time series study was completed utilizing a sample size of 10,406 child abuse reports retrieved from Cornell University's National Data Archive on Child Abuse and Neglect, representing the timeframe of September 2016 to August 2018. Group statistics, independent samples, and ANOVA testing techniques were utilized to complete the analysis. The results illustrate a reduction in child abuse reporting just prior to the disaster event, coinciding with a reduction in investigator response time. The framework introduced in this study provides direction for other child protection investigation organizations to analyze response capabilities during a disaster leading to positive social change.

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Dedication

This study is dedicated to my grandfather, Sergeant Roger Hoefs. His 25 years as a lawman and countless storytelling about the career he loved inspired my dedication to explore the criminal justice system.

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Contents

List of Tables

List of Figures

Chapter 1: Introduction to the Study

In Pasco County, Florida, child abuse reports require an investigative response from a Pasco County Sheriff's office child protective investigator. These investigators must commence an investigation between 4 and 24 hours after the state child abuse hotline screens-in an abuse report (Proceedings Relating to Children §§39.201-39.308). During the collection of evidence, investigators may find it appropriate to remove a child from home. The removal of a child from their parent(s) is an interdisciplinary process involving law enforcement, parents and other family members, the local circuit court, state attorney's office, guardian ad litem office, social work organizations, a medical team, foster home, and professional childcare depending on the type and severity of the abuse (Proceedings Relating to Children §§39.001 – 39.908).

A child protective investigator's duties and responsibilities make this a complicated and extremely stressful career that causes personnel burnout and high turnover (Cohen, Kinnevy & Dichter,2007). The responsibility to protect the children of the community is one that can never cease, regardless of any internal or external forces that may pose as inhibitors to this goal.

A substantial external force that affects all aspects of civilization is natural disasters. In this study, I evaluated several scientific journals related to the theme of child welfare and natural disasters. An additional review includes federal and state and local commission reports, state, and federal laws, and organizational policy. While much literature focuses on the effects of disaster on children and their displacement or on organizations and communities, extant literature does not include a full operational

analysis on agency goals when faced with such a sizeable outside influence such as a natural disaster. In this study, I explored the effects of hurricane Irma on the immediate operational goals of the Pasco County Child Protective Investigation Division in Pasco County Florida. This is the first study that includes the use of the conceptual framework of emergency management and normative operational conditions of child protective investigations. I used a quantitative approach to explore the operational goal of the time an investigator takes to commence an investigation of child abuse or neglect during a disaster. My focus was on investigator response times and how this relates to the timeline of impact from a natural disaster. I also addressed other influential variables such as maltreatment type and the baseline level of abuse report generation.

I used a two-pronged approach to understand these relationships. I explored the relationship between child abuse and neglect report generation during a disaster. I also evaluated how response times vary within the normative operational timeline and the disaster timeline. I also elaborated on the generalization of results as general child welfare policies reflect state-level policy decisions. Some operational policies reflect regional/county jurisdiction level directives. To understand these associations, I described these characteristics and highlighted the relationship between concepts and agency operational inputs and outputs. Conclusions from this study will help to inform policy on emergency management planning among child abuse first responders.

Research questions

1. How does child abuse report generation change during disaster?
2. How do child abuse investigation response times change during disaster?

3. How does maltreatment type and report generation affect response times?

Hypotheses

1. H_0: The generation of child abuse reports decreases during disasters.
2. H_0: Disasters increase the time it takes investigators to make physical contact with victim children.
3. H_0: There is no relationship between maltreatment type, report generation and response time.

The Florida Child Protective Investigation Model

Reporting Child Abuse

Operated by the Florida Department of Children and Families, the State of Florida maintains a single centralized child abuse reporting system. This system, located in the state's capital, receives abuse allegations from a hotline number, faxing, and web-based options regardless of local jurisdiction or reporting party. Apart from the investigator, the reporter of child abuse or neglect remains anonymous. Reporters may also remain anonymous when using electronic reporting methods; however, mandatory reporters such as medical staff, law enforcement, and school staff do not have anonymity with the investigator. Following the receiving of allegations from the reporter, an intake specialist will evaluate the allegations to determine if legal criteria permits the acceptance of the report for further investigation. The intake specialist will screen in the report and create an intake, sending it to the appropriate jurisdiction for investigation (Proceedings relating to children §§39.201 – 39.206, 2016).

The type of investigation varies upon the allegations. Special condition reports include a parent in need of assistance, child on child sexual behavior, caregiver unavailable, and a foster care referral. A parent in need of assistance (PNA) is not a traditional investigation regarding abuse, abandonment, or neglect, but rather a resource-based intervention for families that may be struggling financially. The intakes specialist forwards a PNA intake to the local social services agency. A child on child investigation refers to non-criminal allegations of inappropriate sexual conduct among young children. These cases are co-investigated with local law enforcement to determine if criminal acts have occurred. A caregiver unavailable report occurs when the child's caregiver has been incarcerated, hospitalized, or has died (Proceedings relating to children §§39.201 – 39.206, 2016) .

Foster care referrals address situations regarding licensing and regulatory violations in foster care settings. Institutional investigations refer to allegations of abuse abandonment or neglect against organizations or their staff; these organizations include schools, daycare facilities, and first or group homes. Institutional investigations involve three simultaneous investigations. In addition to the child protective investigator (CPI), law enforcement will conduct a concurrent criminal investigation. If the institution is a public school, the school district's internal affairs staff will investigate. If the accused organization is a daycare facility, foster or group home, the department of children and families will investigate within their licensing office (Proceedings relating to children §§39.201 – 39.206, 2016).

Regular investigations are those with the code of in-home with allegation narratives falling within 27 subcategories; multiple categories may be present in one intake. Physical injury, sexual abuse, death and human trafficking are maltreatment codes that require concurrent criminal investigation by law enforcement. If the allegations within an in-home investigation lead the intake specialist to suspect that a child is in imminent danger, the response time to commence the investigation will be four hours. All other in-home investigations must commence within 24 hours of the investigating agency receiving the intake (Proceedings relating to children §§39.301 – 39.308, 2016).

Maltreatment type

Twenty-seven maltreatment codes are utilized to categorize the allegations provided by a reporter. The Florida Department of Children and Families Child Maltreatment Index (2017c) provides definitions and guidance for each code, these are:

- Abandonment: The caregiver has not made any significant contributions to the child's care and has not maintained a relationship with the child. Can also include situations where a caregiver is incarcerated.
- Asphyxiation: A willful act resulting in asphyxiation, suffocation, or drowning.
- Bizarre Punishment: The willful act of subjecting a child to repetitive, severe, or prolonged physical or mental suffering. May also include confinement.
- Bone Fracture: Any willful act resulting in an inflicted bone fracture.
- Burns: Intentional act of burning a child from the excessive exposure of thermal, chemical, electrical, or radioactive agents.

- Death: A child under the age of five dies outside of a medical facility without evidence that death occurred due to a medical condition or reasonable trauma. A child dies in a medical facility due to abuse or neglect.
- Environmental Hazards: A child's living conditions create a significant threat to immediate or long-term health resulting from a caregiver's actions or inaction. May also include inadequate food and clothing.
- Failure to Protect: Failure to prevent mental of physical injury to a child. May include the lack of protection from sexual abuse or not following an order of protection.
- Failure to Thrive: Situations where a child is not meeting developmental or physical standards; may also include malnutrition and dehydration.
- Household Violence Threatens Child: Household members engage in violence without regard to the safety of a child which could result in serious injury.
- Human Trafficking – Sexual Exploitation: Use of any person under the age of 18 for sexual favors in exchange for anything of value.
- Human Trafficking – Labor: Utilizing a child for the purposes of labor or service through the use of coercion, fraud, force peonage, debt bondage or slavery. May also include situations that are mentally or physically hazardous to a child.
- Inadequate Supervision: The act of leaving a child without adult supervision or appropriate arrangements for supervision.
- Internal Injuries: A willful act that causes internal injuries to a child regardless of the caregiver's intent to cause injury.

- Intimate Partner Violence Threatens Child: The establishment of power, coercion, or control of one partner over another through actions that could cause impairment to a child's physical, mental, or emotional wellbeing.
- Medical Neglect: Failure to allow necessary medical care for a child or a caregiver's failure to provide medical care to a child.
- Mental Injury: A child exhibits serious emotional, intellectual, or psychological impairments as a result of abuse, abandonment, or neglect.
- Physical Injury: Any willful act that results in the temporary or permanent loss of a bodily function or disfigurement. May also include any severe and plausible threat to the child's health.
- Sexual Abuse (Battery, Exploitation, Molestation): Sexual contact or exploitation between a child and a caregiver, parent or legal guardian.
- Substance-Exposed Newborn: The prenatal exposure of a child to controlled substances or alcohol.
- Substance Misuse: The purposeful act of giving a child drugs, alcohol or other substances that affect behavior or cause sickness or injury.
- Substance Misuse (Alcohol, Illicit drugs, Prescription drugs): The exposure of child to controlled or illegal substances or, alcohol. Abuse of these substances by an adult resulting in poor living conditions for a child or negative behavior towards a child.
- Threatened Harm: Non-accidental behavior that poses risk to a child's mental, emotional, and physical health. May be present during the death of a child's

sibling in the care of the parent. Also present when a parent has a child in out of home care or has had parental rights terminate and has given birth or allowed a new child into the home.

Pre-commencement

Once the investigating agency receives an investigative intake, a child protective investigator will be assigned the case. While much of the state of Florida utilizes the Florida Department of Children and Families to conduct investigations, the sheriff's offices for Broward, Hillsborough, Manatee, Pasco, and Pinellas counties perform this responsibility. Regardless of jurisdiction, state law requires all child protective investigators to follow a set of protocols for investigating child abuse, abandonment, and neglect. Pre-commencement activities include obtaining the criminal histories of all adults present in the investigation. These histories make up a part of behavioral analysis and guidance in evaluating the adult's appropriateness as an active member of a child's life. Information regarding prior involvement with child protection services enhances the behavioral analysis of individuals within the family unit (Proceedings relating to children §§ 39.301 – 39.308, 2016). The accessibility of this information by an investigator creates a unique situation for investigators and agencies as the state perceives these professionals as members of law enforcement services to have access to sensitive information.

An investigator must also contact the reporting party to obtain clarification and confirm the information within the intake. An investigator must also inform the reporting party of their right to include a written statement in the official record. Depending on the

allegations and type of report, an investigator may have to consult with law enforcement, adult protective services, social services, or state licensing to conduct a concurrent investigation or offer immediate referrals for assistance (Proceedings relating to children §§39.301 – 39.308, 2016). For example, an intake with the code of medical neglect will require the investigator to consult with a medical team (Proceedings relating to children §§39.3068, 2016).

Commencement

Regardless of the response time, the first duty of the investigation is for the investigator to complete an unannounced in-person interview with the victim child. Additionally, the investigator must interview other children in the home, non-offending adults, relevant collateral witnesses, and the alleged perpetrator. If a parent or caregiver denies the investigator access to the child, the investigator shall gain access through a court order. Concurrently, the investigator will assess the socioeconomic characteristics of the family and the condition of the physical environment of the home (Proceedings relating to children §§39.301 – 39.308, 2016). The observations, family backgrounds, and interviews help to inform a determination of present danger.

Present Danger Assessment

The present danger assessment provides the investigator with a tool of analysis for determining if a child is safe. The assessment of danger begins upon initial contact with the family (Florida Department of Children and Families [FLDCF], 2013). While this provides a baseline for the investigation, the assessment of danger is fluid and should maintain an active presence throughout the investigation. An investigator utilizes the

information from the initial contact with the family to determine if the present situation for the child presents by one or more of ten danger threats. These danger threats include the lack of basic needs for the child, willful acts of harm to the child, caregiver acts violent or impulsive, threatening harm to the child, extreme negative views of the child, caregiver lack of addressing a child's psychological or physical health, poor living conditions, reports of serious harm to a child and the child cannot be located and medical neglect. To confirm any of these danger threats, an investigator must determine that the threat is significant, immediate, clearly observable, and actively occurring (Florida Department of Children and Families, 2013). Every investigation includes a present danger assessment in which an investigator must enter into the electronic file with 48 hours of receiving the intake. When an investigator finds evidence of present danger, that investigator must implement a present danger safety plan before leaving the child(ren) in the home (FLDCF, 2018).

Safety plans are documents that dictate all parties' responsibilities to ensure the child (ren) are safe. These plans cannot be promissory and must dictate specific and measurable actions to ensure adherence to the plan. Plans may include an individual's addition or the exclusion from the home to mitigate the danger threat. In the event of a domestic violence situation, the investigator will craft two safety plans: one for the victim and one for the perpetrator. Two plans are necessary to keep the location and activities of the victim confidential from the perpetrator to minimize future violence. Investigators must also analyze the protective capacity of the caretakers to determine if these caregivers have the cognitive, behavioral, and protective instinct to take actions to

minimize safety risks. When protective capacities of caregivers and safety plans fail to mitigate danger threats sufficiently, the investigator will file a shelter petition to remove the child from home (FLDCF, 2018).

Supervisory Consultation

Within 5 days of receiving an intake, the investigator must complete consultation with their immediate supervisor. During this consultation, the supervisor will review the information from the investigation to ensure accuracy, specific detailing, and implementation of appropriate preventative actions. The supervisor may direct the investigator to make a subsequent visit to the home to collect additional data. The supervisor must evaluate present danger safety plans within 24 hours of the creation of a plan. Supervisors must complete a *second tier* consultation with their immediate supervisor for all in-home safety plans. This classification describes safety plans that keep a child in the home, usually with a non-household adult monitoring the home situation and safety plan (FLDCF, 2018).

Family Functioning Assessment

As the investigator collects data, they begin to fulfill the family functioning assessment's information collection and analytic requirements. The primary goal of this assessment is to identify children that may need ongoing safety management as well as assist caregivers in improving their protective capacities. A complete analysis includes addressing adverse family conditions that may not rise to the level of impending danger but may lead to future maltreatment. This assessment covers six domains of family functioning via interviews of the parties directly involved, including family, neighbors,

friends, education, health, and social service professionals, official records, and previous investigations (FLDCF, 2018)

The first domain addresses the extent of the maltreatment, identifying what is occurring and its effect on the child. The second domain addresses the surrounding circumstances of the maltreatment. This domain contextualizes the maltreatment by identifying what may have led to the maltreatment behavior, the family's history of maltreatment, and an analysis of the caregiver's cognitive evaluation of the maltreatment. The next domain addresses child functioning: investigators assess a child's development, academic success, health, adherence to cultural norms, and interpersonal relationships. The adult functioning domain addresses social skills, stress management, substance use, family violence, personal relationships, education, employment, self-care, mental and physical health, and adherence to cultural norms (FLDCF, 2018).

The general parenting domain provides for the analysis of a parent's feelings toward their children, about being a parent, parenting skills and style, protectiveness, and cultural norms. The final domain relates to the parent's use of discipline. This domain sheds light on a parent's discipline preference and the basis for their discipline style. Information also includes how the parent provides direction and teaches the child proper behavior. Associated with these domains are impending danger threats. The information gathered in each domain will inform the decision as to whether these threats exist. A completed family functioning assessment (FFA) will be useful if the family requires longer-term social services (FLDCF, 2018).

Risk Assessment

Another investigative tool is the risk assessment. While the FFA and the present danger assessment (PDA) utilize qualitative measures, the risk assessment is quantitative. The assessment tool encompasses several factors; for example, the number of prior investigations on the family. These conditions have options to select that best matches the family dynamic and characteristics of the investigation. These options are associated with a numeric value, which together provides a final value. These values correspond with a level of risk to the child, including low, moderate, high, or very high. A second tier staffing with the investigator's supervisor and the next level up the chain of command occurs when there is a high or very high risk to the child. These high-risk investigations require interdisciplinary staffing that marry investigative functions and social service provisions to identify service that may reduce current and future risk to the child. The investigator transfers the family's case file to the local social service agencies, and the investigation ceases (Casey Family Programs, 2013).

Case Closure Consultation

At the fulfillment of all duties, the investigation can be closed. A consultation between the investigator and their supervisor will occur to ensure that the FFA is sufficient, the mitigation of danger threats, and the completion of requirements. Investigations must be closed within 60 days of receiving a report, except in cases where an active law enforcement investigation requires the CPI investigation to remain open or a child in-custody death in which a death review can last for an extended period (FLDCF, 2018)

Child Removal

When a safety plan fails to be sufficient in mitigating the risk to an unsafe child, the investigator will remove the child from home. This decision first occurs when an investigator has determined that a safety plan cannot mitigate the unsafe conditions for the child, a parent refuses to comply with a safety plan or materially violates a condition of placement, the child is a victim of abuse abandonment or neglect or a child is without a parent or legal custodian. When the investigator discovers one of these conditions, a consultation with their supervisor and higher-ranking member up the chain of command occurs. The investigator will then consult with the state attorney's office to evaluate the legal sufficiency to remove the child. Once the investigator receives legal sufficiency, they must make arrangements to find placement for the child (Proceedings relating to children §§39.395 - 39.4091, 2016).

Placement

Placement options include an appropriate adult or other family member or foster care. The placement of a child in foster care requires the investigator to request placement to the local social service agency. The use of another adult or family member requires the additional completion of a home study. An approved home study is a requirement before a child placement outside of the foster care system. This study requires background and child welfare history reviews of all individuals in the home over twelve years of age. The investigator must visit the home to complete an interview with the caregivers and see the home environment.

The home study addresses the household's ability to take on the extra responsibility of caring for the child. The prospective caregiver interview includes much

of the same details in the adult functioning domain of the FFA: education, finances, and tradition are just some of the characteristics in the line of questioning. The investigator will take photos of the home and discuss proper sleeping arrangements for the child. The proposed caregivers will be informed of the court hearing process and be given referrals for assistance, such as daycare. The proposed caregivers will be allowed to have a preference regarding child and parent visitation and must adhere to the court's visitation order. The investigator's supervisor will review the results of the home study for consideration of approval (FLDCF, 2016, 5-1). While the placement of the child is pending, the investigator must complete a shelter petition.

Shelter Hearing

To initiate the legal procedure for removing a child from their home, an investigator must complete a shelter petition. The petition will demonstrate the justification for the removal and include all evidence to support this decision. Under Florida law, a shelter hearing must commence the next day. The investigator will notify the parents of such hearing. If a parent is unknown or unable to be located, the investigator must initiate a diligent search for any known or unknown prospective parents. The shelter hearing involves a local judge, the investigator, the state attorney representing the investigator, parents, attorneys for the parents, family members, the child, the coordination of the local detention center regarding jailed parents, guardian ad litem and attorney ad litem. The investigator will provide sworn testimony to the court regarding the evidence. If the judge decides that the evidence is sufficient to uphold the removal, judicial order will release the child's medical and educational records to the

investigative agency. The judge will also appoint guardian ad litem, attorney ad litem, and counsel for the parents if necessary. The judge will determine if visitation is appropriate and when the parents are permitted to visit the child. If the parents receive visitation, the initial visit must occur within seventy-two hours following the shelter hearing; subsequent visits will be at the court's order. Following the same protocol of a non-shelter investigation, the investigator will complete all assessments and participate in interdisciplinary staffing to transfer the case to a social worker. It is at this point that the social worker will assume the investigator's position for the remaining court hearings. Upon the completion of the transfer staffing, the investigator completes a case closure staffing with their supervisor to obtain approval to close the investigation (Proceedings relating to children §§ 39.395 – 39.510, 2016).

Emergency Management

The purpose of this study is to understand the operational pressures placed on an organization during a disaster. The Emergency Management conceptual framework provides for direction and identifies areas of importance that organizations must address. Limiting adverse effects of a disaster on operational goals, lessening the loss of life and property, ensuring the efficient use of resources, and promoting faster recovery are goals of this framework (Anderson,2015). Examining child protection goals within this framework addresses these operational goals within the context of disaster management. Proper planning reduces disaster-related costs, loss of life, and property and makes the recovery process easier (Johnson & Share, 2016). The systematic approach to disaster planning began in the 1970s with the rise in emphasis on civil defense. Policymakers

utilize a comprehensive emergency management plan to address service interruptions that may occur during a disaster. Emergency planning involves the utilization of past disaster experience, research, and testing to best address the needs, limitations, and resources of a specific community or organization during and after different types of disasters (Alexander, 2015). Disaster planning is a continual process that does not provide an end product but instead ensures that the function of planning and learning remains active within the community. Planning and disaster mitigation begin at the most local level of governance and may include higher levels of government to address local level limitations and community needs. The higher level of government involvement supplements but not take over the local effort. A central tenet of emergency management is that this type of planning is most successful when controlled by the local authority, as these individuals have the most significant knowledge of their community. The functional mechanism for emergency planning is the National Incident Management System (NIMS). The NIMS is a set of operational standards meant to outline and support interoperability among various organizations to address the multitude of conditions present during and after a disaster. This management system provides for standard protocols applicable to various types and magnitudes of disasters as well as different locations. NIMS provides direction on three major command systems: Incident Command System, Emergency Operations Center, and Multiagency Coordination Groups, in addition to resource management and information management (USDHS, 2017). We will now provide a general analysis of the central tenets regarding the management of emergencies.

Resource Management

During the management of disaster, a resource plan plays an essential role in addressing disaster tasks. The realm of resource management goes beyond the attainment and control of useful supplies for the emergency. Resource management also includes the direction given to personnel assets and facilities. Identifying and providing type information on resources is the first step toward utilization. Resources are identified by their ability to be used throughout various agencies and jurisdictions, their overall usefulness, and what they are (USDHS, 2017, p6). Typing a resource requires a more technical evaluation of the object, facility, or person under consideration for use. Numeric scale, resource categorization requires the analysis of an item's functional capacity or an individual's credentials or qualifications. Numerical scale typing begins at type one, denoting the highest of capacity or capability, moving up numerically as these characteristics lessen. Resource planning requires identifying what resources the organization has, what it may need, and what other organization or jurisdiction may be able to provide additional resources. NIMS suggests that resource planning incorporates the stockpiling of resources, mutual aid agreements, resource ordering, and staging and the development of contracts with vendors to quicken the delivery of resources during and after a disaster (USDHS, 2017 p7). With the addition of these resources, organizations must ensure proper storage and identification of these supplies.

Personnel assigned to disaster management must follow guidelines regarding tasks assignment. These individuals must wait for an official deployment order to engage in disaster-related duties. Personnel that begin tasks without assignment perform self-

dispatch. This action may cause confusion and inefficient use of resources. Additionally, day to day assignment tasks must be covered to ensure those basic operations of the organization continue during the disaster. Upon an individual's arrival to an incident, they must check-in, keep records of their activities, maintain communication, and check out to ensure personal accountability.

Throughout the deployment of a resource, personnel will monitor its location, use, cost, and other considerations to ensure effective use. This process continues up to the point of resource demobilization. Demobilization ensures a resource returns to its regular location or status, repairs of replenishment occur, and the cost associated with the resource is validated and reimbursed to the owner (USDHS, 2017 p 16).

The mutual aid process beings with the creation of a mutual aid agreement; this agreement, between organizations and agencies of other jurisdictions, addresses liability, compensation, resource management, information interoperability, the recognition of credentials among different geopolitical jurisdictions and cost reimbursement. Once an agreement is complete, the participating organizations may request the assistance of the other partner. This request is evaluated by the requestee to determine if such provisions would interfere with the regular operation of the organization (USDHS, 2017 p18).

Information Management

Information management involves the creation and maintenance of communication interoperability as well as information sharing among various agency personnel, media, the public, and other stakeholders. When there are multiple agencies involved with an incident, a joint information system provides timely information that is

accurate, accessible, and cohesive. This information coordinates data from the three levels of disaster management; the incident, operations center, and policy/strategy. Joint information systems also address technical aspects of communication, such as interoperability.

Communication interoperability requires that involved parties can utilize communication tools and techniques that can be accessed and understood by participating organizations. Interoperability requires the evaluation of standard operating procedures, the types of communication apparatus, and personnel training. Communication tools must be reliable and easy for other agencies to use and obtain. Disasters take different forms and sizes, which will need a communication apparatus that can be scalable to the incident's needs. These tools must also have a high portability level to ensure that mobile units can receive pertinent information. With the common use of radios during disasters, the assignment of radio frequencies would ensure an orderly stream of communication. Communication apparatus must be reliable, and a system of redundancy must be in place if conditions disrupt the primary form of communication. With the inclusion of medical and law enforcement agencies in the management process, there will be packages of information that may be sensitive. NIMS suggests that emergency operations personnel work closely with IT professionals to protect sensitive information (USDHS, 2017, p 51).

Disaster incidents may create a large amount of information. This information must be disseminated and collected in a way that all parties can understand. Products of this data include status reports, situational reports, incident action plans, and on-scene assessments. To ensure complete and discernable information is collected, command staff

can implement a data collection plan that explicitly identifies and defines elements of information that must be present during the communication. Specific staff members validate this data and analyze the information for its implications on the incident. After the vetting process, this information may be disseminated to other members of the incident staff to further tasks goals or the public.

The dissemination of information to the public generally occurs through the Public Information Officer (PIO). This individual maintains contact with the media and the public to ensure the delivery of relevant information tot eh public as well as addressing any false information. There are times, during multiple incident emergencies, that individual incidents have their own PIO. When there are multiple PIOs a head PIO is assigned, to which all others report, to ensure that information provided to the public remains consistent.

Command

NIMS guides the command structure of emergencies. This standard approach to incident management allows for effective management of disaster regardless of location, type, scale, and complexity. The command portion of emergency management is responsible for the on-scene tactical tasks, operational coordination and support, policy-making, and public and media outreach. The command structure of incident management allows for flexibility in the expansion of incident command functions. This modular approach addresses the complexity and environment of the incident and allows the incident commander to adjustments to personnel and resources. The delegation of responsibilities expands as incidents become more complex, requiring different aspects of

disaster management to be engaged. The optimal span of control includes one supervisor to five subordinates. As the number of subordinates increases, the supervisor may delegate responsibly to another supervisor; this new supervisor may assign their subordinates. When there are multiple incidents within a geographical area, an area commander position is an option. Area commanders would be present in situations where multiple incident commanders are present at their respective incidents.

The area commander position allows for more effective control of the larger area of incidents. There are two types of command structures, the single commander or unity of command. The single command structure occurs when a single jurisdiction is involved, or multiple jurisdictions approve the appointment of a single commander. Unity of command occurs when there are multiple jurisdictional and agencies; each agency leader creates a united command structure in which there is no hierarchy (USDHS, 2017 p22). It is important to note that even under the single commander structure, the heads of the participating agencies do not relinquish the authority of their resources and are still responsible for their personnel and resources (USDHS, 2017 25). Command staff also establish specific areas for incident management. The first of such area is the incident command post, housing the command and section chiefs. This post is often located near the incident to perform on-scene command functions. An incident commander may also establish an incident base to store equipment and support services (USDHS, 2017, p31). The operations section chief may assign staging areas for supplies or unassigned equipment. The section chief will assign a manager for each staging area. Camps are

areas that support incident personnel such as areas for food and rest and the maintenance and servicing of equipment.

Incident Command System

The incident command system (ICS) provides for standard operation of incidents. The specific standard operating procedures address command, control, personal hierarchy, and incident management. Beginning with the highest position, we find the incident commander, or in the case of the unified command approach, the group of commanders. The incident commander is responsible for the incident overall and can assign additional staff members to support the command structure. Within the command staff is the public information officer, responsible for the dissemination of information to the public; the safety officer, ensuring the safety of incident staff; and the liaison officer who maintains the point of contact between the incident commander and other involved agencies. As we move down the hierarchy, we have four sections with their chief in command; these sections address operations, planning, logistics, and finance/administration. The operations section addresses the immediate needs of the incident and provides direction on the incident's tactical requirements. This section is also responsible for the effective use of resources, and the implementation of strategies to best meet incident goals.

Planning requires the collection and evaluation of incident data to ensure command staff remains well informed. This section creates reports, aids in situation awareness of staff, keeps track of assigned resources, facilitates planning, collects, and safeguards incident documentation, and is responsible for the demobilization of

resources. The logistics section ensures that the incident staff has the resources needed to meet incident goals. Responsibilities of the logistics section include the ordering and storing of supplies, fuel, food for the incident staff, and the provision and maintenance of transportation. This section is also responsible for the acquiring of facilities, the security of these facilities, and medical aid to incident staff. Information gathering generally occurs within the planning section. However, in the event of a criminal disaster such as terrorism, the incident commander may readjust and create and an additional section that focuses on information as intelligence and investigations.

Emergency Operations Center

The multidisciplinary characteristics of disaster management require the coordination of various groups, including governments, non-governmental, volunteers, private groups, and businesses. Emergency operation centers (EOC) are physical facilities to promote coordination, communication, and unity to address disaster tasks in a timely, efficient, and effective manner. Through the gathering of professionals, EOC's ensure that these diverse groups are made aware of incident needs, and the effective communication of these needs to the most relevant service providers. Primary functions of EOC's are to gather and collect data, address incident command requests, address future needs, provide coordination, and policy guidance (USDHS, 2017 p35).

There are a few ways in which EOC's organize; however, they are always within the oversight of some type of elected official. One organizational structure for an EOC mimics the ICS structure. Under the ICS like organizational structure, the EOC operates by an emergency operations director who oversees the center's operation. The only

command staff member in this structure would be the PIO. This organizational structure contains the four section chiefs with the same responsibilities of the ICS. The incident support model structure contains an EOC director and PIO; however, the sections now carry the titles of; situational awareness section, planning support section, resources support section, and center support section. The departmental structure has an EOC director; however, sections classify regular functions of government. Under this structure, we find separate sections for natural resources, health & human services, public works, public safety, administration, and education (USDHS, 2017 p36-38). Aside from EOC's some governmental agencies such as law enforcement may have emergency operation centers, called departmental operation centers (DOC), within their agency; However, these DOC'S do not address the multidisciplinary and multiagency characteristics of emergency management, instead of addressing the complexities of the agency during disasters (USDHS, 2017 p350). EOC's maintain normal operations when there is not an active incident. During this time, emergency management staff may continue to assess possible threats, maintain facilities, conduct training, improve coordination, and conduct planning activities.

There are various reasons why an EOC may be activated; this includes; a smaller incident growing in complexity, an imminent threat, multiple jurisdictions becoming involved, an EOC director orders the activation or a similar incident leading to the activation of the EOC in the past. As incidents vary in size, impact, and complexity, the activation of an EOC can occur at various levels. These levels are numerically categorized from the lowest ready level three to a full activation level one (USDHS, 2017

p38-39). Once the incident no longer requires the support of the EOC, the deactivation process begins. Deactivation can occur through a phased approach, depending on the needs of the incident. As a part of the deactivation process, the EOC staff demobilizes resources or transfers resources to the appropriate agency. The management of incidents allows for continual learning opportunities, as evident with the final stage of EOC deactivation, improvement planning, and after-action review.

Multiagency Coordination

Multiagency coordination group participation consists of representatives for the organizations represented during the incident. There are apparent participants, such as public safety officials. Not so apparent participants may include representatives from the local chamber of commerce. This group informs multiagency policy decisions regarding resource management. This group is also essential in providing consistent and accurate information regarding the incident to elected and appointed officials.

Hurricane Irma

The 2017 hurricane season produced several tropical systems, including hurricane Irma. This weather system began as a depression off of the Africa Coast on August 26th. During its trek through the Caribbean Islands, Irma's intensity would fluctuate between category four or five. Given the intensity and westward track, a hurricane watch was issued on September 7th for the southern region of Florida. By September 8th the storm had reached the northern coast of Cuba with the intensity of a category five. A Hurricane Watch was initially issued for the Pasco County area on September 8th at 9 p.m. The storm would make its Florida peninsula landfall near Marco Island as a category three

storm. As Irma traversed the state, the eye of the storm would pass over eastern Pasco County on September 11th as a category one storm (Cangialosi, Latto & Berg, 2017). By this time, Pasco County had accepted more than twenty-five thousand people in twenty-nine local shelters (Pasco County, 2017). While there were reports of damage and flooding, one of the most profound effects on the community was the loss of electricity. The loss of electricity service during disasters contributes to the degradation of community infrastructure, which may interrupt public institutions. The Tampa Bay Region, which includes Pasco County, experienced a dramatic increase in power loss between September 10th and September 11th of approximately 45 percent. Peak power loss occurred on September 12th, with approximately fifty-five percent of accounts experiencing a loss of service. Service restoration would steadily improve with near complete service restoration occurring around September 20th (Mitsova, Esnard, Sapat & Lai, 2018).

Child Welfare and Disaster

Performing the duties of a child protective investigator, during disaster situations, introduces additional complexity. Reports of physical child abuse generally increase among communities experiencing the effects of most types of disasters (Curtis, Miller & Berry, 2000). Additionally, states like Louisiana experience longer investigator response times due to the reallocation of child welfare staff to other disaster-related responsibilities (USDHHS,2016).

The 2005 Hurricane Katrina disaster continues to provide experience for continual emergency planning improvements. Children under case management services, at the

time of Katrina, lost contact with service providers and did not receive vital resources. As a result of this disaster, the federal government passed the Child and Family Service Improvement Act of 2006. This act requires emergency planning for organizations responsible for foster care, kinship care, residential, and group facilities (Gnatt, 2011). This act is the first significant directive supporting the prioritization of incorporating emergency planning into child welfare.

While federal mandates require emergency planning for foster and social service agencies and childcare facilities, these organizations cover only a portion of professionals within the field of child welfare. In Pasco County, Florida, emergency planning begins with the Pasco County Office of Emergency Management. This county-level office is the primary responsible agency for the creation and implementation of an emergency plan on a countywide level of jurisdiction. This emergency plan is comprehensive and takes an all-hazards approach to address emergencies. This plan organizes the various considerations of an emergency into sections, including a separate section for child welfare. However, the child welfare section does not provide a specific direction, only referring to Florida as the primary responsible party for child welfare disaster planning (Pasco County, 2014). The state-level of emergency planning in Florida provides for a specific section addressing foster and daycare organizations. The State of Florida (2016) sets forth the requirement of foster care and daycare providers to adopt emergency planning practices. Child protection investigation functions are not present in the emergency planning element.

Additionally, the position of child protective investigator a civilian position for which there are no policies or protocols that address this position during times of disaster (S. McKay, personal communication, December 17th, 2018). While the current work is limited in scope by addressing a single jurisdiction and disaster event, this study provides a framework for future inquiry and practical application built upon prior studies and literature reviews. The role of emergency management as a mechanism to ensure communication and cooperation among various agencies may prove to be an applicable approach to address the various agencies involved in child protection investigations during a disaster.

Chapter 2: Literature Review

Themes Related to Child Abuse and Disaster

This literature review was completed by using a blanket search of all data bases found within the Walden University Library. Key terms used in this search include, *child abuse*, *child abuse and neglect, child protective investigator, emergency management, child abuse and disasters,* and *child maltreatment.* I also refined this search to include the geographic United States of America as well as a timeframe between 2000 and 2019, except in the case of historical reference.

Disaster-related knowledge continues to affect fundamental basic principles in understanding how disastrous events interact with civilization. However, due to the variability in disaster type, frequency, intensity, and the population affected, it is difficult to generalize findings beyond basic principles.

I subdivided the literature review into non maltreatment consideration, maltreatment consideration, investigation intake, investigator retention, and prior literature review to address the various conditions I found when exploring this topic. I take this sub categorical approach to the literature review due to the limited prior research on organizational effects on child protection first response during disasters. Law, reports, academic journals, real-life scenarios, and standard operating procedures are reviewed to inform the content within the five categories. I analyze the content of these categories within the contextual framework of emergency management.

Garrett et al. (2007) found that the size and strength of a disaster do not classify something a mega disaster. Instead, it is the effect that disaster has on the society that

gives this determination. The characteristics of this variable rely on pre-existing vulnerabilities of the community. This allows for the study of disaster in several different areas; however, the focus of the current work is to marry the operational characteristic of investigating child abuse and neglect in Florida and the conditions imposed on these types of organizations during disastrous events. This narrow focus dramatically reduces the amount of previous literature useful for the advanced understanding of this relationship.

Non-maltreatment Considerations

I begin by evaluating non-maltreatment considerations for children during disasters. Children are disproportionately affected by disasters compared with adults (Revere, 2010). In general, between one third and one-half of disaster-related deaths are among children (Kamath, 2015). Kousky (2016) examined the vulnerabilities of children during disasters. Since children rely on adults for their safety and general needs, they are naturally more vulnerable. Kousky (2016) utilized data from hurricane Katrina to contextualize the impact on a child's physical and mental health during a disaster. The author noted that interruptions in food supply may increase malnourishment, infections from tainted water supplies, and a lack of electricity.

Some children have Post Traumatic Stress Disorder (PTSD) following a disaster event (Pfefferbaum, Noffsinger, Wind, & Allen, 2014). Consequently, younger children may not be able to verbalize their needs in the absence of their caregivers. Quickly reuniting children with their parents can help mitigate some of the psychological affects these children face (Kousky, 2016).

The reunification of children is one of the most involved processes facing organizations during the disaster response and recovery stage, with 34 thousand calls to the National Center for Missing and Exploited Children after hurricane Katrina (McBride, 2011). Jemtrud, S., Rhoades, R. and Gabbai, N. (2010) evaluated reunification within the hurricane Katrina disaster; identifying five thousand children dislocated from their families after Katrina; the average age of these children was 5.7 years old. It took 6 months to reunite all children with their familes (McBride, 2011). Additionally, 15% of families reported a deceased relative (Garrett, 2007), which places a child in a heightened state of vulnerability.

Peek (2008) identified seven psychological, six physical, and four educational vulnerabilities, each with varying factors that impact children during disasters. Evaluating the emergency management process in a pediatric hospital, Burke, Iversion, Goodhue, Neches, and Upperman (2010) also evaluated children's psychological and physical considerations in disaster. Psychological and physical characteristics of children make them more susceptible to negative consequences.

Quickly reunifying children with caregivers is especially critical in minimizing long term psychological effects. In addition to these factors, there are also several demographic, socioeconomic, and disaster impact characteristics that the author reports to be areas of need for future research (Peek, 2008). Peek (2008) noted an increase in vulnerability and abuse due to the conditions found in public shelters. Overcrowding, heightened risk of abuse and separation from parents, and the risk directly associated with the disaster (Peek, 2008), lack of formula, childproofing needs of facilities, child

medication, specialized medical treatment, and equipment and assaults present risks to children in shelters. (Garrett, et al., 2007).

McBride (2011) also focused on shelter conditions in their evaluation of the National Commission on Children and Disaster. The study includes a recommendation for emergency shelters to incorporate child-friendly areas. With the former notation regarding the conditions of the evacuation shelters, I would suspect that his environment would be a potential additional source of child abuse reports. The adverse shelter conditions add to the operational load experienced by the responding agency. Citing the specific work on disasters and children of Curtis, Miller, and Berry (2000), Peek (2008) noted lasting psychological effects on the family that heighten the risk of future child abuse and neglect.

Additional vulnerabilities are present for children with disabilities; these children may not have the cognitive or physical ability to understand safety risks or relocate to safety. Families of children with disabilities are more often economically depressed, making it more difficult for families to address the challenge of childcare during disasters (Ronoh, Gaillard, & Marlowe, 2017). Families with children who have a disability may find themselves more reliant on child protection services, such as but not limited to the parent in need of assistance (PNA) subtype, during disasters; thus, placing a more operational load on child protective investigation agencies.

The child protective investigator's responsibility to address allegations of child abuse and neglect is primary. However, investigators possess unique tools that may be beneficial during a disaster. The investigator can refer a family or child for social,

behavioral or economic services and can assess the appropriateness of a caregiver through the use of databases (Proceedings relating to children, Fla. Stat. §§ 39.0138, 2016); this is especially important for children who are absent from their regular caregiver. These non-maltreatment responsibilities may place additional operational stress on the organization.

Maltreatment Considerations

Identifying Maltreatment

The recognition of child maltreatment began in the 1850s as tens of thousands of children roamed the streets of New York City. These children suffered from malnourishment, medical needs, poor hygiene, and inadequate shelter. The formation of several local societies addressed these issues (Palusci, 2017); however, the main focus of these organizations was to address issues communities would currently associate with child neglect, not child abuse. Intentional child abuse began to get recognition with the works of Dr. John Caffey, the father of pediatric radiology (Grover & Crawford, 2016; Palusci, 2017; Pediatrics, 2000). In the landmark article, “Multiple Fractures in the Long Bones of Infants Suffering From Chronic Subdural Hematomas,” Caffey evaluated the injuries of 6 otherwise healthy children. He noticed that subdural hematomas and long bone fractures occurred concurrently. Caffey recognized that the hematomas could have occurred due to minor accidents, as explained by the child's parents; however, long bone fractures required a greater force of trauma. The chronic hematomas indicated continual blunt force trauma. At the same time, the internal bone fracture injuries supported the suspicion that the level of force placed on the child's injury site was greater than that of a

pure accident (Grover & Crawford, 2016; Palusci, 2017). Before these findings, nurses and practitioners were unwilling or unable to identify child abuse and relied on the explanation provided by the parent for such injuries. The correlation between radiological findings and suspicions of abuse motivated Dr. Caffey to support other practitioners in the liberal use of radiology to assess for child abuse (Grover & Crawford, 2016) Due to the cultural, political, and legal environment of the time, Dr. Caffey was unable to declare child abuse in the research cases explicitly; however, he did create the relationship between medical finding and inconsistent explanations for such findings as a sign of suspected child abuse (Palusci, 2017). Today, investigators evaluate explanations of physical injury against medical findings to assess for physical and sexual child abuse utilizing pediatric medical services (FLDCF, 2013).

During the same time as Dr. Caffey's contributions, the New York Society for the Prevention of Cruelty to Children was intervening in cases where parents had failed to provide for their children's medical needs. The decades between 1940 and 1960 the organization's mission grew from focusing specifically on medical neglect to receiving and investigating all reports of child maltreatment. New York City organized its child maltreatment department in the 1960s, leading the way to the modern, government-controlled child protection investigation service (Palusci, 2017).

Maltreatment During Disaster

In one of the first attempts to empirically explore the relationship between child abuse and disasters, Curtis, Miller and Berry (2000) present initial considerations regarding the relationship between child abuse and disaster (Peek, 2008). Through the

lens of the frustration-aggression theory, the researchers worked to answer the question regarding an increase in child abuse during disasters. The theory supports the assumption that the breakdown in social norms and family interruptions increases parental frustrations; thus, increasing the likelihood of abuse toward children. The work of Curtis, Miller & Berry (2000) utilized county-level data from the year before and after the disaster event. Three specific disasters are presented in this work; the Loma Prieta earthquake in California, Hurricane Hugo in South Carolina, and Hurricane Andrew in Louisiana. The specific county data sets follow a strict inclusion criterion. These criteria require that the sample population be present in a county with widespread damage; the disaster events occurred after the 1980s due to an increase in the uniformity of reporting techniques and abuse reporting and the availability of one-year post-event data and the county must have a presidential disaster declaration.

Curtis et al. (2000) utilized an interrupted time series quasi-experimental design method. Some difficulties presented in the data sets from different jurisdictions are the availability of information and the type of abuse and reporting procedures. To control for these jurisdictional differences, the research team analyzes the data from each state individually. To complete a parallel analysis, the researchers transform the data into a uniform format. This transformation provided an added necessity to audit the validity of the data once the transformation is complete. By forming a collegiate panel, random checks of data ensure the continued validity of the data. As the researchers explored the time series trends within the reporting frequencies of child abuse, it became apparent that natural increases in child abuse reporting may impact the study. To address this concern,

the researchers shifted from the use of case count frequencies to the use of case total proportions (Curtis et. al, 2000). I use this critical control to guide the current study and provide the framework necessary to control for natural influences.

In the work of Curtis et. al, (2000), the year before and after event datasets did not include the month of the disaster as the researchers focused their study on the long-term change in child abuse reporting. This is where I will diverge the current study as the direct and immediate effect on organizational operation ability is the focus of the current analysis.

What Curtis et. al, (2000) found is an increase in child abuse reporting after the California and South Carolina event but a decrease in child abuse reporting after the Louisiana event, leaving the question regarding child abuse reporting and disasters inconclusive. Curtis et. al, (2000) provided some suggestions that may explain these differences. Suggestions include the lack of service and structures available to report abuse and the Louisiana population's exposure to more frequent disasters. This provision of disaster exposure follows the hypothesis of the desensitization of the population to the stresses of disasters that, under the frustration-aggression theory, illicit an abuse response onto children. The researchers included information from interviews with child welfare supervisors.

Through these interviews, the researchers discovered that supervisors find it difficult to conduct investigations due to the effects of the disaster on personnel, damage to infrastructure, the assigning of child welfare personnel to unrelated tasks at shelters. A return to normal operations for child welfare agencies occurs after the initial stages of

response and recovery. The guidance also includes the need to reevaluate these trends using more up to date disaster events, controlling for the change in population as a result of the disaster, findings ways to capture unreported abuse, and qualitative analysis of how disasters change the operating protocols of child welfare agencies.

The work of Brandenburg, Watkins, Brandenburg and Shieche (2007) provides us with another specific examination of child welfare during disasters. The work of Brandenburg et al. (2007) evaluated the hypothesis that a significant number of unregistered children traveled without a legal guardian and were not listed on the Nation Center for Missing and Exploited Children's list of children missing from Louisiana following Hurricane Katrina. The study focused on the disaster migrant population that at the time of the study relocated to the national guard base of Camp Gruber in Oklahoma. Initially, the researchers found approximately three hundred children at the base and no plan for dealing with this massive influx of the most vulnerable of the population. There was also no registry to identify these children; however, the federal government believed that the National Center for Missing and Exploited Children was the most appropriate organization to take on this task. To address the concern, Operation Child ID activated within Camp Gruber. Under this operation, three strike teams assembled, with each team staffed by four nurses and two regular staff persons, a law enforcement officer was also present in each group.

The purpose of these strike teams was to identify separated children, prevent abuse, and prevent abductions. In addition to caring for medical needs, these teams completed a child's social assessment. These assessments identified children within the

camp and determined who their guardian was. This data was then sent to the Center for Missing and Exploited Children. Staff provided the child and adult a bracelet similar to those used in a hospital to identify the adult as the child's caregiver. The more empirical results showed that of the three hundred children originally in the camp, only 254 were still present at the time of the study. The other children were not present or were in the process of reunification with their legal guardian. Within the child population of 254, we find 36 children/caregiver separations. Of these 36, all but 1 child was with either an extended family member or a family friend; the singular child was without an adult. The research benefited from a one hundred percent participation rate; thus, strengthening the likelihood that the results are representative of this specific population at this location. This study represents another example of specific targeting of a population and disaster event. While the empirical data may not be generalizable, this study does bring a vital component to consider when planning child welfare agencies for disaster. This study also highlights the need to perform immediate tasks to ensure that we are gathering adequate data. The children that are missing from the original population may provide us with additional insight; thus, any further study into this specific condition may benefit from more immediate implementation of data gathering. Through the operational lens of the current study, the need for a child registry, as supported by Brandenburg (2007), will require additional personnel resources that may impact the ability of child welfare agencies to maintain regular operational standards.

Peek (2008) also makes mention of the operational stressors placed on organizations, which cause communications to break down between agencies, promoting

increased risk to children. We will use this additional responsibility to inform the practical application of our results. Revere (2010) discussed the recommendations made by the National Commission on Children and Disasters utilizing statistical data from the Hurricane Katrina disaster. According to the National Center for Missing & Exploited Children, five thousand one hundred ninety-two were reported missing. It took six and a half months for the final child to reunified with family.

Additionally, there is an emphasis on training education personnel to address the psychological effects of a child in crisis. Revere (2010) also mentioned the need for child welfare agency disaster preparedness. While these are important considerations to address, a greater emphasis is lacking in the immediate conditions present between child protective needs during a disaster.

An additional analysis of the Katrina disaster by Gnatt (2011) summarized the Child and Family Services Improvement Act of 2006. This analysis shows that this act requires a response to new child welfare cases in the disaster area, communication among the agency and cps workers, the preservation of essential records, and information sharing among states. The Child and Family Services Improvement Act includes recommendations that speak directly to the current study. These suggestions include regular staff planning for disaster, coordination with emergency management, adopt and implement state plans at the local level and plan and collaborate information sharing with the courts. However, these recommendations are not present in the Florida child welfare system for investigative functions or at the local level. The Pasco County Sheriff Office does not have a general order explicitly addressing the role of the child protective

investigator during a disaster (S. McKay, personal communication, December 17th, 2018).

More recently, we explore the work of Lauten & Lietz (2008), where the Aceh Indonesia tsunami and Hurricane Katrina in Baton Rouge Louisiana are of focus. This study looked at each disaster individually and compared the surrounding circumstances and issues. For the current study, we take a more thorough look at the Louisiana data. The research design and method for this analysis utilized an initial population of 700 children through a convenience sampling of two local schools. Researchers utilized the *Events and Circumstances* survey to obtain the sample population. Using the resiliency framework, the researchers characterized child protection as the ability to minimize the disruption of children's lives. Lauten & Lietz's (2008) broad definition of child protection leads to an overgeneralization of child protection during a disaster, limiting the identification of any specific conditions that may affect a child's level of risk. The research does find a lack of prioritization of child protection during a disaster.

Data shows that of the 253 final respondents, 54 reported four or more moves to different homes. Ninety-five percent of the respondents reported attending more than one school following the disaster. The researchers do make more of a connection with regards to the operational analysis of the current research. During hurricane Katrina, systemic failure led to the lack of monitoring of 2,000 sex offenders. Among the families calling the FEMA trailer communities home, 45% did not feel safe allowing their children to play outside. Twenty-five percent of these families felt that their children are experiencing heightened exposure to drugs and alcohol in these communities. These

conditions bring the researchers to suggest that security threats to children need to be an active consideration within emergency planning. One of the most predominant fears for children was separation from their parents. Child/caregiver separation would be the experience of 5,000 children found amongst the gulf states after Katrina. Lauten & Lietz (2008) cited an inadequate registration system in which to identify children and parents, one of their most operational-oriented suggestions for the child protection field. This finding coincides with the condition present within the Brandenburg et al. (2007) study. There are some considerable limitations to this study. First, there are only two schools within a single metropolitan survey area. As Curtis, Miller & Berry (2000) conclude, location, type, and intensity of a disaster can significantly influence a community. Also, every state has its operational parameters for addressing the concerns of children during a disaster. These conditions, coupled with the variables within a disaster, make any attempt to generalize findings a problematic task, beyond the subject community. Finally, utilizing disruptions of daily life as a measure of child protection does not capture the more immediate concerns of physical, emotional, and sexual child abuse that is increasingly present during a disaster.

As we discuss the high variability of disaster among different geographical locations, the research of Zaharan, Shelly & Peak (2009) provides us the opportunity to examine past work, specifically examining the location for which the current research targets. Zaharan et al. (2009) examined the relationship between crime and disaster, with the intent of being able to model crime in the future. The research involved a county-level analysis of crime in the state of Florida utilizing a large-scale longitudinal method.

Dependent variables included categorical crimes, index, property, violent, and domestic. Independent variables include sociodemographic (population size and economic capital), social order (law enforcement personnel density, non-profit density), and disaster (disaster frequency, presidential declarations). Zaharan et al. (2009) looked to examine two competing theories regarding crime and disaster. The first proposition suggests that crime rates decline because the population focuses on restoration activities, and the equal nature of suffering dissolves social divisions. The second proposition suggests that three elements allow for an increase in crime during a disaster: availability of victims, absence of guardians, and offender motivation. This proposition also suggests that disasters aggravate social conditions causing an increase in disorganization and crime. Results of this research support both propositions. There is strong evidence to support the first proposition because index, violent and property crimes decline during disasters in Florida. However, there is also support for the second proposition, as incidents of domestic violence increase. While the category of domestic violence does not explicitly mention child abuse, we can suspect that domestic violence in the presence of a child could generate a child abuse report per the protocols outlined in the State of Florida child welfare system (FLDCF, 2018). These results seem to contradict the researchers' initial assessment of an outright increase in crime during a disaster as they cite, Curtis, Miller & Berry (2000) but fail to mention the crime reduction found with Curtis's et al. (2000) crime reduction data from the Louisiana population sample. This inability to fully generalize this relationship continues with the work of Zahran et al. (2009). The researchers specifically cite the Tampa Bay region as having a high domestic violence

rate during a disaster; an important revelation for the current research as the target location, Pasco County, is located within the Tampa Bay region. Zaharan et al. (2009) suggest that their work represents the starting point for more empirical studies. Future research should address changes in reporting protocols, other sources of reporting, and delve deeper into specific disasters.

The work of Jordan, Yampolskaya, Gustafson, Armstrong, McNeish, and Vargo (2011) provides a pertinent context for the current study. Jordan et al. (2011) focused on identifying the operational difference between child protective functions managed by the Florida Department of Children and Families and child protective functions managed by local sheriff offices during the fiscal year 2007. At this time, 6 county sheriff offices were responsible for child protection duties. At the direction of FLDCF, the authors utilized a point in time evaluation to examine four CPI process indicators. These indicators included the proportion of investigations completed within the required 60 day duration, victims seen by an investigator within 25 hours; investigations commenced within 24 hours, and victims with substantiated findings of abuse.

Two additional outcomes include children in unsubstantiated reports that were victims of an additional report within six months and children included in a second episode of abuse or neglect within six months. The researchers found that Florida child welfare laws tightly controlled at the state level allowing for little differences in operational approaches between investigations managed by the welfare department and sheriff offices. The researcher also found strong similarities with the demographics of the children each investigative structure serves. Of the four indicators, the victim with

substantiated finding was three percentage points higher with the sheriff's office structure. Within the outcome indicators, the researchers found that children served by the sheriff office structure have a statistically significant higher probability of revictimization utilizing the Cox regression method. This research shows the similarity of intent with the current study as it performs an operational analysis of the child protective investigative function of the Florida child welfare system. However, the research of Jordan et al. (2011) does not explicitly address the conditions for which the current research focuses. Also, the current research will differ in the use of indicators to analyze operational parameters. Unlike Jordan et al. (2011), the current research will limit data parameters to victim seen in 4 hours, and victim seen 24 hours. These indicators provide the best review of immediate operational stress for the organization as they ensure child safety while requiring and immediate implementation of resources. I must also make a note of the operation similarities among the two investigative structures as they may assist future research with the generalization of findings among the two structures.

Conclusions found within the Zahran et al. (2009) study suggest the use of specific disasters, in which I find the work of Daughtery & Bloom (2009) whom, go beyond a theoretical approach. Like previous works of literature, this study cited Curtis et al. (2000) but fails to mention the reduction in Louisiana's child abuse reports during Hurricane Katrina. The focus for Daughtery & Bloom (2009) is to understand how child welfare agencies manage disaster planning while dealing with day to day operations. The researchers bring together 30 child welfare administrators, supervisors, and workers within the Washington DC area from differing jurisdictions. A multi-jurisdiction day of

collaboration led participants toward discovering the need for planning for the resource constraint found during a disaster. Participants were placed in a room and given a scenario. Radio reports are played through a speaker, allowing the participants to react as conditions worsen. Participants walked around the room seeking resources from other jurisdictions. After the activity, participants discuss their interactions. Primary themes arising from this activity included; discussing memorandum of understanding should take place before a disaster, information sharing is helpful, targeting planning is helpful when meeting with other individuals of the same position from other jurisdictions, the utilization of a specific scenario helps to identify deficiencies, there is a need to continually work and plan with other agencies, and before the activity, child welfare professionals were unaware of the need for planning. While this activity does not include the effects of the disaster on the professionals or their employees, it does take a step toward promoting awareness of the need for child welfare disaster planning. This work does not generalize these findings; however, it identifies possible directions for additional research on the themes that are identified by the professionals. Also, we must consider that each jurisdiction and geographical location may have unique consideration, possibly resulting in different emerging themes. The findings of this study demonstrate how this community addresses child welfare disaster planning, making the results specific for these organizations; however, this study provides a template for which other areas may examine this condition. Daughtery and Bloom (2009) bring forth an essential qualitative condition for child welfare disaster planning. Many child welfare agencies spend resources on emergencies every day, making it challenging to prioritize planning for an

emergency that may not occur. This revelation highlights the importance of the current study as we look to explore the quantifiable justification for or against the need to incorporate child welfare disaster planning as a means to ensure operational continuance and efficiency during such disasters.

Subedi, Bartels, and Davison (2019) provided the most up to date data regarding the relationship between child abuse and natural disasters. Basing their work on the findings of Curtis, Miller & Berry (2000) Subedi, Bartels and Davison (2019) utilized the frustration-aggression theory and Bronfenbrenner's ecological model to evaluate the relationship between child emotional, physical and severe physical abuse and the 7.0 magnitude earthquake that occurred in Haiti on January 12th. The researchers provided one of the most in-depth analyses of this relationship through the identification and analysis of confounders and effect modifiers; these include, household wealth, head of household educational attainment, marital status, urban/rural residency environment, number of household members, sex of the child and age of the child. Socio-economic variables were measure at specific years before and after the disaster event, pre-event measures from 2005/06 data, and post-event measures from the year 2012. The most notable changes observed were a near 3% increase in male heads of households and an increase in educational attainment. Overall, increases in wealth status are statistically significant as well.

Subedi, Bartels, and Davison (2019) acknowledged that physical, emotional, and severe physical abuse often coincide; however, the researchers individually analyze these abuses. Emotional and physical abuse was more prevalent than extreme physical abuse,

with a significant increase found with physical and emotional abuse post-earthquake. Death of household members contributed to an increase in emotional and severe physical abuse, while the injury of a household member correlated with a decrease in emotional abuse. The researchers performed abuse mapping and discover no conclusive relationship between abuse and a child's proximity to the epicenter. However, settlement camps had 25% more prevalence of severe abuse, suggesting that this type of environment contributes to child risk. This finding builds upon the trend identified by Seddighi et al. (2019) regarding increase risk to children in evacuation shelters. The researchers add to the specificity of the work by performing multivariate regression on several relationships. There was no relationship found between physical abuse and household member injury, severe abuse and household member injury, death of a household member and physical abuse, damage of home and emotional abuse, damage of home, and physical abuse. These relationships were analyzed with the added variate of child age and sex, with no association between these relationships as well.

Subedi, Bartels, and Davidson (2019) add to the complexity of studying child abuse and disaster through the use of specific socioeconomic conditions and disaster specific conditions. While some conditions correlate with an increase in different types of child abuse, others do not. This conclusion supports the findings of Curtis Miller and Berry (2000) concerning the lack of a generalized linear correlation between child abuse and natural disaster. There is a considerable limitation to this study in informing the current study. Subedi, Bartels, and Davidson (2019) were unable to obtain pre-event data of Haiti child abuse occurrence but instead, used global averages to estimate baseline data

and examine changes post-event child abuse. Also, the research uses self-reporting of abuse by families, which may be influenced by memory loss, and the stigma surrounding child abuse. Like previous works, Subedi, Bartels, and Davidson (2019) support the need to perform the study's replication to move toward conclusive results related to the subject.

Investigation Intake

To fully understand the input portion of the current research's formula, we must understand some considerations regarding how agencies receive investigations. Steen & Duran (2014) provide a comprehensive evaluation of child abuse reporting structures and their relationship with the number of abuse reports accepted for further investigation. Utilizing a sample of 44 states, including Florida, the authors examine decentralized, centralized, and hybrid reporting systems. With the decentralized system, the agency responsible for investigation is the same agency responsible for accepting abuse reports and deciding the need for further investigation. The centralized system utilizes a central intake agency. This agency determines the need for further investigation and sends the report to the appropriate jurisdictional agency. The hybrid system allows a reporter of child abuse both options found within the centralized and decentralized structure. Steen & Duran (2014) focus on four dependent variables for their assessment. These variables are the referral rate of reports, the percentage of reports screened in for investigation, the rate of reports screened in for investigation, and the rate of reports with substantial evidence supporting child maltreatment. Utilizing four linear regression models, the researchers determined statistical significance between a decentralized and centralized structure with regards to the rate of screened-in reports and the percentage of screened-in

reports. Centralized structures screened in ten percent more investigation that decentralized structures. Statistically significant differences are also found between the hybrid structure and the decentralized structure regarding substantiated findings, with hybrid structure exhibiting a higher rate. The researchers suggest that because decentralized structures control screen in rates and are aware of their resource limitations, that these structures, with reduced resources, may suppress the screen in report rate to address resource inadequacies. These findings are essential for the current research as they address systematic characteristics that may influence our dependent variables. However, the Florida abuse intake structure is a centralized system. Therefore, we would not expect suppression of the screened-in report rate based on local resource concerns.

Investigator Retention

Cohen, Kinnevy & Dichter (2007) explored child protective investigator retention with an emphasis on organization structure. The organization structures of child protection investigations operate through a sheriff's office or operated through a state social services program. Quality of work-life appears to be the motivating factor for issues surrounding employee retention. The researchers found that child protection programs administered by a sheriff's office have higher work-life quality due to an increase in available resources. The conditions of organization administration and work-life quality are essential characteristics for the current study as the organization in the current study is a sheriff's office, coupled with the focus on disasters and their effect on resources.

Dickerson & Painter (2009) add to the discussion of employee retention with their qualitative study focusing on the reasons for CPI separation. Baseline demographics and an attitudinal survey administered five times to cps workers from 33 agencies in North Carolina show that CPI separation from employment is highest at the midway point of the second year of employment. The attitudinal portion of the study provides no consensus on why cps workers decide to leave the profession. The Florida Department of Children and Families Investigator Status Report annually addresses, among other topics, investigator employment condition and retention.

Looking at the past 3 years of reporting, I discovered that Suncoast Region, which includes Pasco County, has a monthly new case per investigator value of 10.99 for the year 2016, 11.6 for the year 2017 and 10 for the year 2018 (FLDCF, 2016, 2017b, 2018b). However, the report goes on to address issues of validity with these data points. These numbers represent the total amount of regular investigations divided by the number of investigator positions. This limits the data collection parameters to only regular investigations and does not account for the responses necessary in other types of investigations such as special condition referrals and institutional reports. Also, the provisionally certified investigator who is still undergoing training does not receive more than four new investigations as a point of protocol. Finally, filled positions that are still in the classroom setting of training do not receive any investigations. Nevertheless, these positions contribute to the determination of the case per investigator per month dataset. These annual reports also address trends in investigator retention. Vacancy rates average 18.18% (2016), 17% (2017) and 9% (2018) for the Suncoast region (FLDCF, 2016,

2017b, 2018b). However, this data set is limited as these values are collected only one day during the year. This snapshot view of investigator retention does not illustrate the possible fluidity of vacancies that occur throughout the year.

Prior Literature Review

Several literature reviews on child abuse and disaster identify new and reoccurring themes. Jemtrud et al. (2010) evaluated the family reunification condition found within the context of disaster response and recovery. After completing a review of reunification processes through a review of literature and government guidelines, the researchers found a lack of well-defined reunification processes. The researchers explore this topic within the setting of a children's hospital and found a systematic approach to reunification. It includes caregiver and children identification practices that utilize documentation, registration, and armband tracking. McBride (2011) also supports the use of private and government tracking systems for reunification. With a focus on armed conflict and natural disaster, Lazenbatt & Taylor (2013) identified the heightened risk of physical, psychological, and sexual abuse among children in displacement camps. Citing Curtis et al. (2000) and Brandenburg (2007), Razaeian's (2013) review incorporated 21 articles. A notable theme within this review includes an increase in violence against children during disasters; however, only a few articles specifically examine natural disasters and interpersonal violence. Self-Brown (2013) followed prior researchers in citing Curtis et al. (2000); however, the researchers focus on understanding how the risk to children changes during the lifetime of a disaster. Researchers found that the risk of child maltreatment is the greatest at three to six months after the disaster. This research

serves as the impetus for additional longitudinal studies to examine outcomes after disasters. The change in child maltreatment frequency over time and within a specific time frame informs the current research by supporting a longitudinal examination covering at least six months of post-disaster data points. Rubenstien & Stark (2017) add to the body of knowledge by introducing the theory of event severity and risk. This theory suggests that more frequent and severe events predict higher risk to children by their parents. This approach provides future direction to researchers by supporting the need to examine the frequency and severity of disaster events concerning child maltreatment frequency and emergency response stages. The variability of disaster intensity and disaster response supports examining the current subject at the micro-level as disasters, geography, and socioeconomic conditions are too variable to produce specific findings that can be generalized.

Mohammadinia, Ardalan, Khorasani-Zavareh, Ebadi, Malekafzali, and Fazel (2018) explored the topic of child resiliency to add clarity to the characteristics of child resiliency. Following a review of 28 pertinent articles, Mohammadinia et al. (2018) found several perspectives that influence the definition of child resiliency. These differences are based upon the perspectives of various researchers and suggest that child resiliency incorporates several conditions needing further evaluation to understand this phenomenon adequately. While this study focused more on child resiliency and less on the operational load placed on agencies, we should make note that understanding the tendencies of child resiliency in disasters may assist agencies in preparing for changes operational loads due to post-disaster psychological effects on children and families. The

most recent literature review completed by Seddighi et al. (2019) builds upon Rubenstien & Stark (2017) and Curtis et al. (2000) by examining eleven articles published between 2010 and 2018. Again, the researchers noted that the majority of perpetrators are parents and the increase in child risk present in an emergency shelter. The researchers add to the body of knowledge by addressing specific differences among genders. Girls are less exposed to physical violence than boys, but girls are more impacted by violence. Women commit most of the psychological abuse, while men commit most of the physical abuse against children.

There are specific pre-disaster indicators that predict an increase in child abuse; these include food and shelter insecurities, low socioeconomic status, substance abuse, child labor, and exposure to previous violence. There are several variables present in prior research; Seddighi et al. (2019) adds several other variables that increase the complexities of the subject. These complexities support the need to examine the subject at the lowest of levels while providing contextual frameworks to other communities that may utilize the approach with consideration of unique community and disaster characteristics. Cerna-Turoff, Fischer, Mayhew & Devries (2019) conducted a systemic literature review of children and disaster. Eleven articles met the inclusion requirements, of which seven present findings, originating in the United States. Natural disasters and armed conflict are of focus, 50% of these disasters were hurricane related. Violence indicators included physical abuse, corporal punishment, and sexual abuse. The research of Cerna-Turoff et al. (2019) failed to find consistent statistically supported associations between natural disasters and violence against children.

The lack of association appears to align with the conclusion found in Curtis et al. (2000). A significant limitation of this study is that the authors only searched social science and health databases, which may be the reason they suggest that their work is the first review of the relationship between disaster and violence against children. However, this work does assist the current study as it confirms that the earlier conclusions by Curtis et al. (2000) are still applicable. The continual use of Curtis et al. (2000) to support an outright positive correlation by later works concerns the current research. Subsequent research citing Curtis et al. (2000) continues to fail in recognizing what Curtis et al. (2000) explicitly note as a lack of definite correlation between child abuse reporting rates and disaster. While Curtis calls for future research to address this relationship, those who continue to study this interaction do not provide the topic any new sources of raw data to complete the continual evaluation of this relationship. The current research will advance this topic through the provision of more recent data. Additionally, the current research will be the first to incorporate the covariate operational analysis approach to understanding the relationship between disaster-related change in child abuse report generation and maltreatment type on child abuse investigation response times.

Chapter 3: Research Method

Approach

The utilization of the Pasco County's Sheriff's office aligns with prior research and the requirement to ensure that the population of inquiry has been affected by a disaster. Pasco County, Florida received a Presidential Disaster Declaration during Hurricane Irma in 2017; thus, meeting the requirements for inclusion in this study. Datasets for this research are available through Cornell University's National Data Archive on Child Abuse and Neglect within three independent data sets. These data sets provide the data needed to conduct this study without the use of confidential information, as all data is in numerical form. These data represent only the population found within the jurisdiction of Pasco County, Florida. Information regarding the timing of disaster effect has been retrieved from the US National Weather Service analysis of the Hurricane Irma weather event to create a time frame in which to examine potential changes in our baseline variable data.

The focus of this research is to understand the impact of disaster conditions on an organization's ability to continue regular operations. To measure this condition, I view the organization as a machine with input and output variables. The first input variable for the Pasco County child Protective Investigation Division will be the number of allegation referrals sent to the agency for investigation one year before and after Hurricane Irma. The second input variable will be the maltreatment type. Maltreatment types may influence investigator response if a concurrent criminal investigation by law enforcement

is required. The specific output variable for consideration is the time it takes for an investigator to commence an investigation.

The utilization of data from the year before, September 2016 to September 2017, and after the event, September 2017 to September 2018, will be used to establish a baseline understanding of organizational goal attainment. The baseline data for the relationship between our independent variables (number of investigations, type of maltreatment) and our dependent variable (the time it takes an investigator to commence an investigation) is evaluated for any change that may be present due to the inclusion of the conditions found during the disaster event. Utilizing an interrupted time series quasi-experimental design, I will examine the number of referrals sent for investigation at the bi-monthly level. I transform these data points into percentages to determine the proportion of the total number of cases represented each week. This will control for natural variations that would typically be present when utilizing frequencies. The population for this study was not been affected by a disaster within the 52-week time frames suggested; thus, I expect the baseline data to be a valid representation of normal operating conditions. Due to multiple independent variables, I will utilize the IBM SPSS software program to employ a two-way analysis of variance, examining normal relationships among the variables and any differences found within the independent and dependent variables before and during the immediate conditions of the disaster. Additional attention will focus on determining if and how long it takes for the organizational data to return to baseline levels. I will utilize independent sample testing and group statistics to further understand the relationships between the immediate event

time frame and the year prior. Additionally, this testing approach will be utilized to identify changes from the data set just prior and immediately after event within the same month.

Data Collection and Cleaning

The current study is completed utilizing archival data sets maintained by Cornell University's National Data Archive on Child Abuse and Neglect. This collection includes several data points at the state level encompassing the entire United States, providing the study with an initial case population for the three datasets, cf2016, cf2017, and cf2018 of 12,708,944 reports. I then implement a location filtering protocol to reduce our jurisdiction of focus exclusively to Pasco County Florida. To achieve this, we refer to the file mapping form provided with each dataset. The use of variable "County of Report" establishes the assignment of numeric codes to each participating county. The U.S. Census Bureau's FIPS coding protocol provides the numeric identification for the jurisdiction of focus; a value of 12101 indicates Pasco County, Florida. I utilize the case selection and filtering capability of SPSS to perform this process and merge the three independent files into one master file that encompasses the three dataset years of our focus jurisdiction. These actions provided the study with a reduction in population count to 45,274 reports. To address the study timeframe, I implemented range filtering to include all reports from September of 2016 through September of 2018, reducing the study population to 22,267 reports.

The datasets are child file sets that provide information on each child, numerically identified to ensure privacy. With this, I found many duplications of report identifications

due to multiple children present in a single child abuse report. It is the intent of the current study to examine report frequencies; therefore, I have removed duplicate report identifications. As a result of this further filtering protocol, the study is populated with 10,406 reports.

Variable Filtering

The datasets I used provided numerous types of variables when addressing the conditions present in child abuse investigations. Initially, these datasets provided the reader with 144 variables. To address the questions within the current study I filtered variables based on relevancy to the relationships under scrutiny.

The variable report ID (RptID) is utilized as a place holder for the data associated with the individual reports, being previously cleaned for duplication. Report date (RptDT) and report time (RptTM) is utilized to determine the time and date a report was received for investigation. These variables are merged to create a single date and time variable, (RptDtTm). Investigation date (InvDate) and investigation start time (InvStrTm) provide the date and time an investigator completed in person with a child victim. These variables are merged into a single date and time variable, (RspDtTm). I then create a resulting duration variable (RspTmHrs) which is representative of the time between the merged report variable and the merged investigation start variable for each report. The datasets include a notification (Notifs) variable that provides information regarding the type of notifications to other agencies that an investigator would be required to complete. A value of 1 indicates no notifications required, a value of 2 indicates police notification, value 3 for licensing, value 4 for both, value 8 for other and value 9 for

unknown/missing. The focus of the current study is to distinguish between maltreatment types, because of this requirement, I include this variable with a focus on value 2, which denotes an investigation maltreatment of physical abuse, sexual abuse or human trafficking requiring law enforcement notification. I created the study's final variable by grouping together the reports based on the receiving date. This grouping variable (BiMonth) assigns a numeric value, 1 - 49, to the bi-monthly date levels to complete general comparisons and the interrupted time series analysis. Upon completion of the dataset cleaning protocol, the study is left with 10,406 reports with characteristics expressed across six relevant variables.

Chapter 4: Results

The following results and analysis assist are used in understanding the effect natural disaster has on response times for child protective investigators. Report generation frequency analysis is followed by statistical testing of the response time variable. Time series comparisons demonstrate differences among response times prior and after the disaster. Lastly, response time trend analysis completes this chapter.

Frequency Proportions

In addressing the first research question regarding frequencies of report generation differences, I applied a simple frequency test to the population. The resulting table is used to identify three outlier bimonthly entries, Aug18A, Aug18B and Sept18A. These entries appear to contain incomplete data sets; the removal of these entries from further testing is required to minimize outlier effects on the examination of proportions. Additionally, I removed two reports, 1000048A3F2a and 1000048C5AFE due to outlier conditions within the response time variable, 797 and 1,072 hours, respectively, leaving the study with a population of 10,404 cases.

As a result of the exclusion of the outlier variables the case count proportions ranged from 1.6 in Jun17A and Sept17A to 2.8 in Feb17A. The proportions for the data sets associated with the incident timeframe, Sept 16a, Sept16B, and Sept17B, fell within the proportion range. When examining the specific datasets associated with Hurricane Irma, I found a decrease in report proportion from Sept16A to Sept 17A of 0.4%. Additionally, the report counts of dataset Sept17B increased 0.1% from dataset Sept16B.

Due to the larger than expected decrease in child abuse reports just prior to the event, I failed to reject the first hypothesis.

Table 1

Frequency of Child Abuse Reports

Bimonthly

Assignment	Frequency	Percent	Valid Percent	Cumulative Percent
Sept2016A	203	2.0	2.0	2.0
Sept2016B	256	2.5	2.5	4.4
Oct2016A	217	2.1	2.1	6.5
Oct2016B	244	2.4	2.4	8.9
Nov2016A	249	2.4	2.4	11.3
Nov2016B	193	1.9	1.9	13.2
Dec2016A	221	2.1	2.1	15.3
Dec2016B	193	1.9	1.9	17.2
Jan2017A	231	2.2	2.2	19.4
Jan2017B	262	2.5	2.5	21.9
Feb2017A	287	2.8	2.8	24.7
Feb2017B	224	2.2	2.2	26.9
MAr2017A	248	2.4	2.4	29.3
Mar2017B	216	2.1	2.1	31.4
Apr2017A	216	2.1	2.1	33.5
Apr2017B	224	2.2	2.2	35.6
May2017A	267	2.6	2.6	38.2
May2017B	259	2.5	2.5	40.7
Jun2017A	167	1.6	1.6	42.3

Continued on next page

Jun2017B	191	1.8	1.8	44.2
Jul2017A	185	1.8	1.8	46.0
Jul2017B	206	2.0	2.0	48.0
Aug2017A	228	2.2	2.2	50.2
Aug2017B	274	2.6	2.6	52.8
Sept2017A	164	1.6	1.6	54.4
Sept2017B	271	2.6	2.6	57.0
Oct2017A	221	2.1	2.1	59.2
Oct2017B	224	2.2	2.2	61.3
Nov2017A	242	2.3	2.3	63.7
Nov2017B	196	1.9	1.9	65.6
Dec2017A	257	2.5	2.5	68.0
Dec2017B	189	1.8	1.8	69.9
Jan2018A	175	1.7	1.7	71.6
Jan2018B	234	2.3	2.3	73.8
Feb2018A	248	2.4	2.4	76.2
Feb2018B	212	2.1	2.1	78.3
Mar2018A	251	2.4	2.4	80.7
Mar2018B	249	2.4	2.4	83.1
Apr2018A	245	2.4	2.4	85.5
Apr2018B	247	2.4	2.4	87.9
May2018A	249	2.4	2.4	90.3
May2018B	230	2.2	2.2	92.5
Jun2018A	196	1.9	1.9	94.4
Jun2018B	190	1.8	1.8	96.2
Jul2018A	180	1.7	1.7	98.0
Jul2018B	210	2.0	2.0	100.0
Total	10341	100.0	100.0	

Response time statistical testing

In order to complete a valid test of response times within the time series, I filtered the master dataset to exclusively test the relationship between Sept2016A and Sept2017A utilizing a group statistic, an independent samples t-test and a two-way ANOVA test. An analysis of group statistics resulted in response times of 12.09 hours for Sept2016A and 9.95 hours for Sept2017A.

Table 2

Response Time

Bimonth assignment	N	Mean	Std. Deviation	Std. Error Mean
1	203	12.0099	8.35416	.58635
25	164	9.9573	7.95567	.62123

The independent samples t-test illustrates a reduction in mean response time from Sept2016A to Sept2017A of 2.05 hours. Observing a p-value of .017, I determined this reduction to be statistically significant, rejecting the second hypothesis.

Table 3

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Response Time	Equal variances assumed	1.218	.270	2.390	365	.017	2.05254	.85870	.36391	3.74116
	Equal variances not assumed			2.403	355.266	.017	2.05254	.85424	.37252	3.73255

*p<.05.

The two-way ANOVA illustrated a lack of significant effect between notification type and response, with a *p*-value of .740, well above the confidence value of .05. There appeared to be significant relationship between the bi-monthly variable and response time, denoted by a *p*-value of .016, well below the .05 confidence value, Again I reject the second hypothesis. Lastly, there appeared to be no significance when addressing the combined relationship between notification type and the bi-monthly date variable on response time, as this test results in a *p*-value of .457, well above the .05 confidence value.

Table 4

Tests of Between-Subjects Effects

Dependent Variable: Response Time

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	428.558[a]	3	142.853	2.128	.096
Intercept	42746.425	1	42746.425	636.768	.000
BiMonth	396.125	1	396.125	5.901	.016
notif	7.379	1	7.379	.110	.740
BiMonth * notif	34.374	1	34.374	.512	.475
Error	24368.292	363	67.130		
Total	69955.000	367			
Corrected Total	24796.850	366			

a. R Squared = .017 (Adjusted R Squared = .009)

To compare post event response times, I filtered the master dataset to exclusively test the relationship between Sept2016B and Sept2017B utilizing a group statistic, an independent samples t-test and a two-way ANOVA test. Group statistics illustrate response times of 11.63 hours for Sept2016B and 11.53 hours for Sept2017B.

Table 5

Response Time

Bimonth assignment	N	Mean	Std. Deviation	Std. Error Mean
Sept2016B	254	11.6339	8.14856	.51129
Sept2017B	271	11.5351	10.74613	.65278

The independent samples t-test illustrates a reduction in mean response time from Sept2016B to Sept2017B of .98 hours. Observing a p-value of .906 I determined this reduction to not be statistically significant.

Table 6

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Response Time	Equal variances assumed	.966	.326	.118	523	.906	.09880	.83647	-1.544	1.7420
	Equal variances not assumed			.119	501.4	.905	.09880	.82918	-1.530	1.7278

*p<.05.

The two-way ANOVA illustrates a lack of significant effect between notification type and response, with a *p*-value of .616, well above the confidence value of .05. There appears to be no significant relationship between the bi-monthly variable and response time, denoted by a *p*-value of .644, well above the .05 confidence value. Lastly, there appears to be a statistical significance when addressing the combined relationship between notification type and the bi-monthly date variable on response time. This test resulted in a *p*-value of .015, well below the .05 confidence value, I rejected the third hypothesis.

Table 7

Tests of Between-Subjects Effects

Dependent Variable: Response Time

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	561.770[a]	3	187.257	2.057	.105
Intercept	67898.601	1	67898.601	746.030	.000
BiMonth	19.404	1	19.404	.213	.644
notif	22.859	1	22.859	.251	.616
BiMonth * notif	539.830	1	539.830	5.931	.015
Error	47417.876	521	91.013		
Total	118415.000	525			
Corrected Total	47979.646	524			

a. R Squared = .012 (Adjusted R Squared = .006)

The previous testing established relationships from the previous year to the datasets prior to and following the event of interest. To obtain a complete understanding of the immediate effects of the event on the dependent variable, I completed testing between the Sept2017A and Sept2017B samples. Running a basic statistic test, I identified a mean response time of 9.95 hours for the Sept2017A sample and a mean response time of 11.53 hours for the Sept2017B sample.

Table 8

Response Time

Bimonth assignment	N	Mean	Std. Deviation	Std. Error Mean
Sept2017A	164	9.9573	7.95567	.62123
Sept2017B	271	11.5351	10.74613	.65278

I conducted an independent sample test to identify the relationship between the mean response times of samples Sept2017A and Sept2017B. What I discovered was a mean difference in response time of 1.57 hours between the pre- and post-event samples. With a *p*-value of .104, greater than the .05 confidence value, this difference appeared to lack statistical significance. Additionally, I tested for other relevant relationships between our variables utilizing the 2-way ANOVA and found all *p*-values to be greater than the .05 significance value, resulting in a lack of any statistically significant interactions.

Table 9

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Response Time	Equal variances assumed	1.724	.190	-1.6	433	.104	-1.577	.9685	-3.481	.3258
	Equal variances not assumed			-1.7	415	.081	-1.577	.9011	-3.349	.1936

*p<.05.

Table 10

Tests of Between-Subjects Effects

Dependent Variable: Response Time

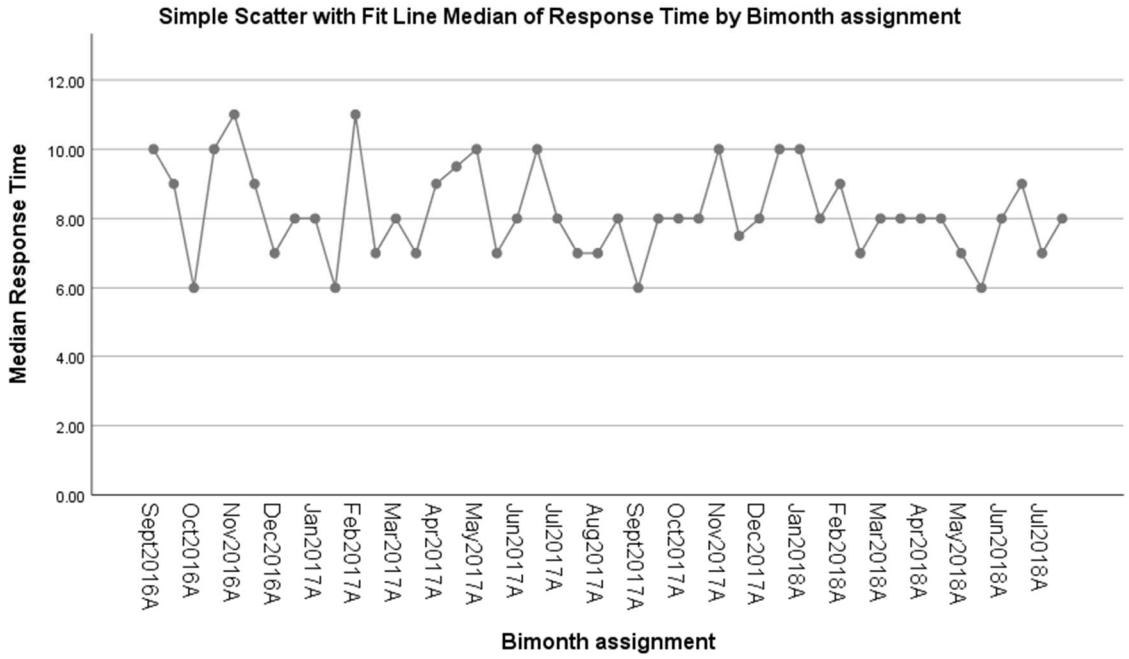
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	430.741[a]	3	143.580	1.498	.215
Intercept	44265.730	1	44265.730	461.730	.000
BiMonth	198.939	1	198.939	2.075	.150
notif	94.841	1	94.841	.989	.320
BiMonth * notif	41.385	1	41.385	.432	.512
Error	41319.705	431	95.869		
Total	93815.000	435			
Corrected Total	41750.446	434			

a. R Squared = .010 (Adjusted R Squared = .003)

Lastly, I analyzed the mean prior and post event response times utilizing group statistics and an independent samples t-test. The results of the mean response times are presented within a simple scatter graph. With this graph I observed a lack of directional trend; however, the wide variation of mean response times at the beginning of the time series appears to lessen throughout the latter half.

Figure 1

Response Time Trend



Observations of the test statistic supports the visualization found within the graph. The mean response time for all observation prior to the event is 12.66 hours, reducing by 1.08 hours to 11.50 hours in the post event observations.

Table 11

Response Times

biyr	N	Mean	Std. Deviation	Std. Error Mean
1	5623	12.6696	39.95796	.53287
2	4716	11.5821	24.31152	.35402

However, the results of the t-test show a significance value of .103, denoting a lack of statistical significance for this reduction.

Table 12

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Response Time	Equal variances assumed	3.559	.059	1.63	10337	.103	1.0875	.66609	-.2181	2.3931
	Equal variances not assumed			1.70	9478.	.089	1.0875	.63975	-.1665	2.3415

Chapter 5: Discussion

The purpose of this study was to understand the relationships among child protection investigation report generation, maltreatment type and the effects on response time during the Hurricane Irma event. I have introduced operations protocol as it pertains to a specific child protection agency and have discuss implications regarding the concepts found within the emergency management methodology. Within this framework I focused on addressing questions pertaining to changes in child abuse report generation, child abuse maltreatment types and changes in response times.

Interpretation of the Findings

When addressing the changes in report generation throughout the study's timeframe I utilized proportions to illustrate report generation baseline data and analyze any changes present after the event. As it pertains to the immediate timeline of the event, I found a reduction in proportion in the days before the event. I propose that this reduction may be influenced by a focus on survival and storm preparation activities, such as evacuation. In the time following the event I recognized a quick return to near normal report generation levels. The quick return to normalcy may be explained by the relatively minor permanent damage found within the community, allowing the effected population to return to the homes quickly.

My analysis of the response times focused on the two datasets immediately surrounding the Hurricane Irma timeline. When evaluating the dataset just prior to the event with the same time the prior year, I found a statistically significant reduction in response time. Additionally, I found a significant relationship between the reduction in

reports and the reduction in response times for this period of time. The response time within the post event datasets illustrates an insignificant reduction in response time compared to the timeframe the year prior. However, I did observe a significant relationship between the two independent variables, suggesting that the occurrence of certain types of child maltreatment coincide with certain times of the year.

I also compared response times for the datasets just prior and immediately following the event. The testing shows an increase in response time of 1.57 hours in the days after the event. However, this change is not likely caused by the direct effects of the disaster buy rather from the disaster planning practices, as the difference in the response times compared with year over year averages, is realized from the reductions found in the days just prior to the event. Lastly, I explored longer trends in the response times and discovered that while the quick return to normalcy does not provide for any significant direction in change for response time, there is a sustained lessening of the variability of response times after the event. Based on several areas of the time series I can fail to reject the hypotheses within the context of the individual comparisons.

Limitations of the Study

The intent of this study was to introduce the concept of investigator staffing levels within the data; however, microlevel data regarding staffing was not available at the time of this study for the specific agency. An additional limitation of the study was the relatively minor long-term effect of the disaster. More severe disasters may have a different effect on the data. Lastly, no community or disaster is the same; therefore, generalizability of the findings is limited.

Recommendations

Regarding the discussion of investigator staffing, I suggest that future exploration of this topic include staffing level data to evaluate this condition independently as well as its effect on other variables during disasters. I also recommend further study of the topics within the timeframe of a more severe disaster to evaluate the condition of event intensity. Within the current study I discovered a reduction in child abuse report generation; however, there is a need to determine the exact cause of this reduction, either due to behavioral changes, evacuation from the jurisdiction or some other factors. My final recommendation supports the need to expand the general knowledge of the subject through the continual study of various communities and disaster types.

Implications

This study provides in-depth exploration of a law enforcement-style child protection agency. I have introduced several concepts and operational protocols that are present in those immediate moments in child protection investigations. Additionally, I have highlighted a function of child welfare that is often overlooked within the context of disaster planning and have provided a beginning framework in which to evaluate the operational efficiencies of investigative goals during disasters. I have provided an updated set of data to complement prior research while being the base for more current inquiry. This study may provide other investigative agencies with guidance in how to marry the concepts of child welfare investigations and emergency management methodology to increase efficiency, maintain a base level of service and ensure the safety

of all those involved in a child's time of need while addressing the unique conditions present in disaster.

Conclusion

Disasters place added risk on to the public, from needing assistance to more serious issues of health or negative implications to safety. Police, fire and emergency medical professionals answer these calls regardless of what mother nature may have in store. It is evident from this study that child abuse occurs during these times as well. Child protection investigation agencies must be prepared to ensure the safety of investigators when responding to the call. Children must be safe not only from the abuse itself but the effects of disaster. Every child protection agency should address these questions because the need to protect children from abuse or neglect never waits, not even for a disaster.

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