

Variances In Predisaster Planning and Integration of Community Emergency Response Teams

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Abstract- Disasters are inevitable and public safety policies exist as reliance on government for effective response coordination is essential. However, overreliance on government is a public concern for many. Communities' abilities to be more self-sufficient and rely less on the government is on the rise in different parts of the United States. If citizens receive basic training on disaster response, fewer lives may be lost and less property may be damaged or destroyed if organizations such as community emergency response teams (CERTs) align with governmental agencies and the private sector towards effective emergency management. Most communities are embracing formal community organizations such as CERTs that prepare citizens with training on basic disaster preparedness. In spite of the steady growth of CERT programs in the United States, very little effort has been made to clarify volunteer integration approaches within the different jurisdictions and the extent to which CERTs have been integrated into formal local emergency systems. The purpose of this qualitative, phenomenological study was to improve understanding of CERT programs and explore the lived experiences of CERT coordinators who engage, recruit, and train citizen volunteers. Ten CERT coordinators from California participated in the research and shared their lived experiences of coordinating and managing CERT. This study was a replication of a 2015 study by Carr and Jensen. Therefore, some aspects of their data analysis method applied to this study. Utilizing Carr and Jensen's coding and group concepts and Moustakas's phenomenological data analysis approach, six themes emerged from the data: (a) catch-and-release dilemma, (b) risk and liability, (c) program ambiguity, (d) structural role ambiguity, (e) CERT credibility, and (f) lack of resources. Outcomes indicated that CERT teams fit differently within the integration spectrum. In addition, the findings emphasized that integrating CERTs into jurisdictional planning thrives in a top-bottom management style. Adoption of this approach could

improve alignment of CERTs' objectives with those of local jurisdictions to respond to and manage emergent disasters.

I. INTRODUCTION

The goal of this study was to explain the integration of community emergency response team (CERT) programs' integration into local emergency management systems, specifically before disasters occur, through the perspectives and lived experiences of CERT coordinators who coordinate, manage, and plan activities of CERT volunteers. A qualitative phenomenological approach was appropriate to understand the phenomenon of predisaster integration. This chapter presents an introduction to the study, including descriptions of the background, need, purpose, and significance of the study. It will present the research questions and define the terms that were pertinent to the study. Chapter 1 also contains analysis of the research design and the assumptions and limitations that impacted the study.

Background of the Study

The need for organized community emergency response preparedness has become crucial in the United States considering the impact of natural disasters such as tornadoes, earthquakes, and flooding in communities. Although citizen-initiated activities during disasters are not new, the possibility of citizens' integrating their operations with those of emergency services requires further study (Ludwig, Reuter, Siebigteroth, & Pipek, 2015). Emergency managers have begun to realize that citizen volunteers are critical in helping communities respond effectively and recover quickly from disasters (Barsky, Trainor, Torres, & Aguirre, 2007; Carr & Jensen, 2015; Federal Emergency Management Agency [FEMA], 2017; Flint & Brennan, 2006; Flint & Stevenson, 2010; Hamerton, Sargisson, Smith, & Hunt, 2015; Ludwig et al., 2015; Meyer et al., 2016; Ochiai, 2014; Perry, 2004; Rivera, Kapucu, & Hawkins, 2015; Scanlon,

Helsloot, & Groenendaal, 2014; See, 2013; D. M. Simpson, 2001, 2002; van Gorp, 2014; Whittaker, McLennan, & Handmer, 2015).

The federal framework of mitigation and recovery focuses on the community. For example, raising awareness of disaster prevention on the community level allows the public to protect their environment by reporting any form of environmental releases in the form of chemicals or wastes. Rodriguez, Quarantelli, and Dynes (2017) noted that an increase in the public's knowledge and access to information in public or private establishments impacts emergency preparedness. The 1980s in particular saw a much-improved collaborative relationship in states that experienced hazardous chemical or waste release with the enactment of Superfund Amendments and the Reauthorization Act of 1986 (Rodriguez et al., 2017), which provided immediate funding and resources.

According to Bullock, Haddow, and Haddow (2008), in recent years, disasters have transitioned from emergencies that can be addressed by single agencies to events that require responses from multiple agencies. This transition birthed a mutual aid agreement to enhance collaboration and help build and sustain a unified effort at emergency management across the United States. The need to expand collaboration among agencies and utilize resources effectively heightened after the bombings of the Murrah Federal Building in Oklahoma City and the World Trade Center in New York City (Valcik & Tracy, 2017).

Before the early 2000s, most of the disasters that the government supported had been managed by legislation that fit into the framework of disaster response and resulted in fewer lost lives. However, the Oklahoma City bombing and the New York City bombings alerted the nation to the potential of a unified command system (FEMA, 2017) that allows resources to be well coordinated and dispatched across state lines and jurisdictions without complications. A surge in community involvement in the form of disaster response volunteering followed these two catastrophes in particular (Flint & Brennan, 2006). Citizens began to act on their instincts to react and help others in a disaster even if they too were victims of the same disaster (Apsan, 2013; Barsky et al., 2007; Carr

& Jensen, 2015; Drabek, 1991; Drabek & McEntire, 2003; Dynes, 2004; H. W. Fischer, 2002; Imperiale & Vanclay, 2016; Pizzo, 2015; Rivera et al., 2015; Scanlon et al., 2014; Stallings & Quarentelli, 1985). Community involvement in disaster response within any jurisdiction is effective with efficient coordination (Studer & von Schnurbein, 2013).

Most communities now understand that the local or federal government's ability to respond with aid quickly after a disaster may be far stretched. Therefore, citizen volunteers work with local agencies to support efforts that reduce the disappointment others in the community may feel in disasters. These volunteers take up small tasks that seek to inform victims about the ongoing efforts and reduce the suffering in the community (Yamamura, 2013). For example, during Hurricane Isabel in Virginia, citizen volunteers assisted with distributing fact sheets and provided updates on the storm to affected communities after the power had been out for more than a week. Also, citizen volunteers assisted local authorities to distribute food and water to affected communities (Franke & Simpson, 2004). Some volunteers helped with organizing and filling sandbags in preparation for a destructive storm (Ludwig et al., 2015).

Similarly, during flooding in Elbe and Oder, Germany, in 2006 and 2010, emergency volunteers were responsible for instigating relief activities (Detjen, Volkert, & Geisler, 2016). Volunteers rushed in and wanted to know how they could help. Some examples of how these volunteers helped during the flood were by providing equipment to neighbors to pump out underground water and clean up streets (Detjen et al., 2016). The critical importance of spontaneous volunteers in support of disasters is well documented, and in some unique disaster situations, integration of emergent volunteers to the response structure with professional responders has been successful. For example, after the terror attack on the World Trade Center in New York City on September 11, 2001, a reputable organization that operated from a secure area recorded a positive acceptability experience for volunteers. A record number of 40,000 unaffiliated volunteers arrived at ground zero in the weeks after the bombing and worked to fit into the incident command structure in whatever capacity they were needed (L.

Fernandez, Barbera, & Van Dorp, 2006; Sauer, Catlett, Tosatto, & Kirsch, 2014).

During the aftermath of Hurricane Katrina in 2005, a number of New Orleans residents benefitted from posttraumatic counseling and spiritual healing from volunteers all over the United States (Ai et al., 2013). The counseling exercise reinstated some basic trust in humanity to these residents (Ai et al., 2013). Efforts to merge volunteers and professional responders were seamless and beneficial, and the volunteers continuously supported activities that remained flexible and adaptive throughout the crisis (Scanlon et al., 2014). In the same vein, during the 1995 Kobe earthquake in Japan, community volunteers and nongovernmental organizations were recruited to fill in the gaps as first responders, further highlighting the tremendous value of spontaneous volunteering (Choate, 2011).

Further review of the literature provided little or no research on the phenomenon of how volunteers from formal organizations such as CERTs are organized, mobilized, activated, managed, directed, and coordinated by their managers into actions following a publicly declared disaster. An understanding of theoretical framework centered on coordination illuminated the phenomenon of how CERT leaders coordinate and manage CERT integration and volunteer activities before disasters.

Need for the Study

Given the different outcomes of disaster response strategies and the frequency of disasters, this study aimed to shed light on the roles of citizen volunteers predisaster and on disaster response integration in conjunction with professional responders in the surrounding local community emergency systems for different levels of disasters. Emergency management systems at the local level are a combination of organizations, strategies, systems, process assets, structural and operational activities defined to address risks or threats, and the consequences of their relationship (Carr & Jensen, 2015). Most citizen volunteers provide support during disasters with basic tasks such as distributing supplies and coordinating resources but lack the necessary first responder skills to assist professional responders during disasters (Flint & Stevenson, 2010). Therefore, most communities are

embracing formal community organizations such as CERTs that prepare citizens with training on basic first responder skills, such as fire safety, “disaster medical services, team organization, light search and rescue,” and disaster fire suppression in preparation for disasters (D. M. Simpson, 2001, p. 55; see also Barsky et al., 2007; Carr & Jensen, 2015; Flint & Brennan, 2006). FEMA (2017) offers massive support in community disaster management by providing awareness training and emergency response outreach programs to establish CERTs.

The research literature on emergent volunteers indicates that citizens’ overall capability to respond, through training and community involvement, has increased throughout the United States (Carr & Jensen, 2015; Flint & Stevenson, 2010; Grimm, 2014; Haataja, Hyvärinen, & Laajalahti, 2014; Ochiai, 2014; Studer & von Schnurbein, 2013). Additionally, support from CERT in disaster affected areas has resulted in significant improvement in recovery processes following disasters (Flint & Brennan, 2006). Despite some level of successful integration of CERT in some community emergency management systems (Carr & Jensen, 2015) for some communities, policy problems still exist and reveal serious concerns for volunteers who risk being victims themselves as a result of poor coordination or communication in a disaster (Carr & Jensen, 2015; Grimm, 2014; Haataja et al., 2014; Orloff, 2011). But literature does not reveal the extent to which CERT is integrated into formal local emergency systems nor any factors that might explain variations of such integration when they do occur (Carr & Jensen, 2015; Scanlon et al., 2014; Studer & von Schnurbein, 2012).

Purpose of the Study

The purpose of this qualitative phenomenology study was to ascertain the extent to which CERT teams can align with professional responders and multiple agencies within jurisdictional emergency management structure in a disaster response effort and to examine the factors that account for any variation in that integration. This qualitative phenomenological study sought to gather data using Moustakas’s (1994) phenomenological methodology to fill the gap in the literature by accessing the lived experiences of CERT coordinators who manage CERT teams. An area of disaster research that had been understudied is

research regarding CERT integration into local jurisdictional planning and the phenomenon of how CERT coordinators organize, direct, and manage the volunteers.

Significance of the Study

CERT research contributes to an overall understanding of CERT benefits at many levels. Effective coordination and collaboration among supportive functions within the emergency management system provide CERT leaders with the confidence they need to encourage citizen engagement and participation that could yield a favorable outcome in a disaster. By exploring the differences and similarities between varying levels of integration into local emergency management systems in the different regions in California, and discussing the value CERT volunteers bring to disaster preparedness in the organizations, the outcome of the study could advance emergency management at the local level. Very little scholarly effort has been made to identify new volunteer integration approaches regarding volunteer organization and coordination with role clarity and the importance such role clarity has on the success of CERTs within the jurisdiction (Aminizade et al., 2017; Carr & Jensen, 2015). This study sought to ascertain different levels of CERT planning that might explain successful coordination and integration. Therefore, this study aimed to contribute to the field of public safety and emergency management an understanding of structural approach specifically; therefore, role (identity) theory was relevant to the study (L. Fernandez et al., 2006, Kreps & Bosworth, 1993; Studer & von Schnurbein, 2013).

Research Question

For this study, an open-ended interview method enabled the participants to share information about their perceptions and lived experiences. The semi-structured interviews allowed the participants to be open in describing their CERT programs and their experiences with volunteers (Moustakas, 1994). Three research questions were central to the 11 interview questions that CERT coordinators answered:

1. How does the integration of community emergency response teams in jurisdictional planning impact effective coordination in emergency response?

2. What have been the experiences with coordinating, planning, and integrating community emergency response teams into the local emergency management system?
3. What is needed to effectively align community emergency response team objectives with local jurisdictional objectives to respond to and manage emergent disasters?

Definition of Terms

The following conceptual definitions clarify the meanings of some of the terms used in the study.

Community emergency response team (CERT). Residents in a community who volunteer to be trained as first responders to disasters (Flint & Brennan, 2006).

Disaster. “A sudden calamitous event bringing great damage, loss, or destruction” (Orloff, 2011, p. 237).

Emergent/spontaneous volunteers. Individuals who emerge to assist disaster response efforts by self-organizing; they are usually unaffiliated—“not a member of an organized or recognized group, untrained in disaster management relevant skills, not responsible or accountable to any given organization” (Barraket, Keast, Newton, Walters, & James, 2013, p. 10). Spontaneous volunteers are people who contact an emergency organization after a disaster to offer support (Barraket et al., 2013; Lowe & Fothergill, 2003).

Integration. A core part of a formal system with clear roles and responsibilities in coordination, planning, and leadership (Carr & Jensen, 2015).

National Response Framework. “A guide to how the Nation conducts all-hazards response. It is built upon scalable, flexible, and adaptable coordinating structures to align key roles and responsibilities across the Nation, linking all levels of government, nongovernmental organizations, and the private sector” (U.S. Department of Homeland Security, 2008, p. i).

Phenomenology. A scientific approach to qualitative research that involves identifying the experiences of an individual or a research subject and “identifying the inherent and unchanging in the meaning of the issue under study” (Chan, Fung, & Chien, 2013, p. 1).

Research Design

Phenomenology is an inquiry that utilizes logic and systems to understand knowledge developed within the social nature of a phenomenon (Doordan, 1998). With its goal of understanding the social nature of a phenomenon, the methodology is the gateway for outlining procedures and strategies employed in research to create knowledge that will produce useful data. Furthermore, the presence or absence of variables could characterize a research method and design (Doordan, 1998). Whereas the research aimed at describing each methodology provides a gateway into the research itself, a research method provides researchers with set instructions on how to gain acceptance of a social construct (Hedrick, 1994). For example, researchers' knowledge of their environment preempts a belief system or a viewpoint that describes a paradigm. According to Kuhn (1970), carving a belief system that is void of generalization helps researchers in understanding the environment in which they operate and helps clarify the beliefs a community shares.

A qualitative phenomenological approach was appropriate for this study to evaluate the lived experiences of participants in situations that fit into a worldview with complex experiences. Because of the complexity of disasters, interpreting the human experience through a conscious understanding lived by the experiencer is only achievable through a qualitative inquiry (Moustakas, 1994). In this case, all beliefs represented a conscious understanding lived by the experiencer and were based on the experiences regardless of the environment. Descriptive phenomenology, according to Giorgi (2010), centers on intentional characteristics, descriptive research, and knowledge derived from the human subjective opinion as well as human consciousness. Husserl opined that all beliefs derive from phenomenology meanings that are borne out of different lived experiences (Moustakas, 1994). A phenomenological framework distinguishes the internal from the external experience and background to elicit different perspectives (Standing, Rapley, MacGowan, & Exley, 2017). Deductive logical, qualitative research, particularly phenomenological investigations of lived experiences of CERT coordinators who engage, recruit, and train citizen volunteers, can provide a better understanding

of the unique experiences and viewpoint of the participants.

Through a qualitative phenomenological process, CERT coordinators shared personal real-life experiences regarding their feelings about and experiences with citizen volunteers in their community. The goal was to extrapolate any unknown factor of citizen volunteer activity and experiences through CERT coordinators' engagement with the volunteers in their jurisdiction. Phenomenological researchers seek to find a known problem to be explored or a situation to be understood from the perspective of the participants. Yin (2009) agreed that a chain of evidence has to be created for exploratory causes that are perceived by informants through a thorough review of the study to help researchers answer the research questions (Amaratunga, Baldry, Sarshar, & Newton, 2002; Tesch, 1990). Therefore, the objective for this research was to interview participants selected through purposive sampling and then to obtain a depth of information regarding the phenomenon and their experiences with CERT volunteers.

Assumptions and Limitations

Assumptions

Accepting social and human behavior as conditions for establishing the complexity of the participant environment relates to a philosophical assumption applicable in this study (Simon & Goes, 2013). This study utilized a phenomenological qualitative methodology, which includes assumptions that participants' responses in semistructured in-depth interviews regarding their personal experiences will yield understanding of their lived experience. A basic assumption of phenomenology is that CERT coordinators can apply different response models, thereby offering different experiences about CERT volunteer engagement and interactions with multiple agencies. The analysis of the different response models and descriptions of varying levels of engagement with CERT volunteers will give a greater understanding of lived experiences of CERT coordinators. Taylor and Bogdan (1998) opined that the premise accepts that participants vary; hence, they enrich the study. Therefore, the assumptions associated with phenomenological qualitative methodology were that for the participants to

contribute their lived experiences to the study, they would have to remember their experiences and be prepared to tell their stories during data collected.

Another assumption was that the participants' stories and the details of their descriptions of events would be honest and true. In drawing relationships from the different sets of an intraparadigm shift in phenomenology qualitative research, the assumption is that the experiences shared by participants shape the researcher's explanation of the subjective social reality and other opposing views of the participants' experiences. For this study, the theoretical assumption centered on structure and coordination (Kreps & Bosworth, 1993). A conscious understanding of the human experience lived by the participants is only achievable through a qualitative source for data collection and analysis (Moustakas, 1994). Participants selected for this study were actively involved in CERT programs and had managed CERT activities at their current locations for at least two years. The assumption was that the longer a CERT program has been active, the more cohesive and valuable the program has been determined to be for the locality (Carr & Jensen, 2015; Jensen, Bundy, Thomas, & Yakubu, 2014).

General methodological assumptions. Three assumptions existed for this study. Regarding qualitative research methods, Patton (2015) noted that compatibility is important in research studies because no single research method could be deemed superior without first looking into an operative paradigm that affects any assumption researchers form. It is for this reason that Moustakas (1994) supported different opinions on research to enhance theories and themes that further scientific knowledge based on the human experience in phenomenology qualitative research. The first assumption was that the research design chosen for this study would support the attainment of a deeper understanding of the data patterns as a result of the data collected and analyzed (Patton, 2015). A second assumption was that the research design was appropriate because it seeks to explore or understand the phenomenon of how CERT leaders coordinate and manage CERT integration and volunteer activities predisaster. Yin (2009) asserted that a chain of evidence has to be created for exploratory causes that are perceived by informants through a thorough

review of the study to help researchers answer the research questions (Amaratunga et al., 2002; Tesch, 1990). A final assumption was that for the research design to be credible and dependable, the outcome of the data analysis through textual data and interpretation must demonstrate consistency.

Theoretical assumptions. Bounded by the limited perspective of chaos, command, and structural (role) theories on volunteer integration and management, this study explored the general limitations of disaster volunteer literature and specifically established the nonexistence of an established theoretical framework to support CERT integration. As noted by Studer and von Schnurbein (2013), the study of volunteers and disaster coordination is poorly theorized. Given this narrow scope, a guiding assumption was that identifying a framework that incorporated structure, chaos, and command theories was an acceptable condition for establishing a positivist or constructivist argument to explore the complexity of the participants' environment. Before this study, no holistic perspective has been presented to enhance the understanding of organizational factors affecting CERT volunteers.

Topic-specific assumptions. For this study, three topic-specific assumptions existed. The first assumption was that CERT coordinators with at least three years of emergency management experience within a fire department actively facilitate training, coordinate, and integrate CERT volunteers in disasters. The second assumption was that the longer a CERT program existed and stayed active, the more cohesive and valuable the program had been determined to be for the locality (Carr & Jensen, 2015; Jensen et al., 2014). Finally, the vast array of literature reviewed for this study supported the overall objective of the study. The assumption here was that literatures shed some light on a qualitative realism paradigm that focuses on meanings (Amaratunga et al., 2002). To this end, the literature reviewed helped incorporate generalizations in the form of positivism to support knowledge creation (Lincoln & Guba, 1994).

Limitations

This study also had some limitations. First, this study was a replication of Carr and Jensen's (2015) study, which used purposive sampling to select local CERT

coordinators from the FEMA VII region, which is prone to hurricane, tornado, and earthquake disasters. However, for this study, the sampling was limited to CERT coordinators from the areas in California that are prone only to floods and earthquakes. Therefore, no studies specific to the areas in this study were available for comparison of findings. Another limitation was the low participation and response rate during recruitment and the resulting small sample. The use of purposive sampling contributed to the limitations of the study's findings and generalizability (Carr & Jensen, 2015). Another limitation of the study was the inclusion of only CERT coordinators who had managed programs for at least two years. Also, the fact that I have been a CERT volunteer at one of the CERT programs in the area for a little over a year may be a limitation of the study. For this reason, having to open up about being a CERT member during the research process may have influenced the responses of the CERT coordinators who participated.

This study may have been limited by some design flaws, as well. Carr and Jensen's (2015) research served as the model for this study; hence, the same interview questions were chosen from the original study in addition to other questions. Specifically, Interview Questions 2, 3, 4, 8, and 9 were replicated verbatim from their study. Also, the addition of other questions to the list of questions from the original study reduced the potential for generalization but promoted a better understanding of the theories explored in this study. Another limitation for this study was the lack of an existing theoretical framework relevant to the topic. Scholarly literature offered little or no reference to the phenomenon of predisaster integration of CERTs. Therefore, the absence of comparative studies on the phenomenon of interest may have constituted a limitation for this study. This limitation highlights a need for more empirical and comparative qualitative phenomenological research into predisaster integration and coordination of organized volunteerism.

Delimitations

Delimitations are areas intentionally not investigated. For this study, three design flaws stand out. The first delimiting step was establishing exclusion criteria for the study. CERT coordinators who did not hold managerial emergency management roles and perform

coordinating activities within the fire department did not participate in the study. In addition, CERT programs with fewer than 20 active volunteers were excluded from the study (Lewis, Ritchie, Ormston, & Morrell, 2013). Also, purposive sampling targeted a minimum of 10 CERT programs according to their accessibility and convenience to the CERT coordinators. A second limitation of this study was the sampling for the study. For instance, this study did not model the same sampling method used in Carr and Jensen's (2015) study to select participants from a region prone to mostly hurricane and tornado disasters. According to Simon and Goes (2013), it is imperative to allow the research to occur in natural settings because of the difficulty in replicating studies. The sampling for this study was limited to CERT coordinators from areas that are prone to floods and earthquakes.

Organization of the Remainder of the Study

Chapter 1 introduced the problem of lack of community preparedness for disasters and the challenges communities face when government assistance in the aftermath of disasters is dissatisfying. Detjen et al. (2016) and Ludwig et al. (2015) alluded to how communities build resilience during disasters with their limited resources and knowledge in disaster recovery until federal government support is available. Carr and Jensen (2015) alluded to the limited or absence of research on the phenomenon of how volunteers from formal organizations such as CERTs are organized, mobilized, activated, managed, directed, and coordinated by their managers into actions following a publicly declared disaster. Carr and Jensen (2015) further pointed out the limited theoretical framework centered on coordination illuminated the phenomenon of how CERT leaders coordinate and manage CERT integration and volunteer activities before disasters. In an effort to address these concerns raised by Carr and Jensen, the study explored the phenomenon of how CERT coordinators manage and organize CERT volunteers. To do so, a qualitative phenomenology methodology was applied to ascertain the extent to which CERT teams can align with professional responders and multiple agencies within jurisdictional emergency management structure in a disaster response effort. In addition, the study examined the factors that account for any variation in that integration. Chapter 2

confirmed that despite measurable progress in disaster preparedness in most communities, the literature review highlighted fewer disaster research with theoretical frameworks that explained how disaster volunteers were organized, coordinated and integrated into local emergency management systems. With consolidated information from the rest of the chapters of the following study, the selection of sample participants that met the established inclusion criteria expounded on the lived experiences of CERT coordinators who manage and coordinate CERT. Worthy of note is Chapter 5 which summarized the research findings, implications for practice and recommendations for future research. Increasing community awareness of disaster preparedness training adds to the body of knowledge in the field of public safety.

LITERATURE REVIEW

This chapter begins by explaining a theoretical framework of disaster management that centers on coordination. The literature review indicated role, chaos, and control theories may enhance the understanding of community emergency response efforts and volunteerism in disasters. The review of the literature first explained the background of disaster research and addresses lessons learned from disasters. To appreciate the role of community emergency response teams (CERTs) managers and their lived experiences, it was essential to review the history of disasters in the United States. The review also described trust and legitimacy in disaster response. Understanding how trust and legitimacy function in a spontaneous disaster response situation could enhance coordination of teams and explain any variation that might exist at different levels of integration.

Next, the review focused on what a citizen volunteer experiences in a disaster and the history and emergence of CERTs. The phenomenon of how CERT managers coordinate and manage CERT integration and volunteer activities before disasters may not fully understood without background information on how CERTs came into being and how the concept has evolved since its inception. The review also examined the recruitment of citizen volunteers into the local emergency management system with the necessary training provisions accorded organizations like

CERTs. The review also explained how the federal incident command system links the different theories that support this study. For example, the incident command system was essential to link the theories together so the interdependencies of all three theories helped explain any variation of integration that could exist with teams. Finally, this chapter delved into phenomenology disaster research and concluded with a critique of previous research with a view to comparing the different disaster research methodologies.

Methods of Searching

Organizing the literature was the premise of the review of the literature for this study. Using only one method of locating peer-reviewed journal and studies on emergency management would have been insufficient. After establishing that disaster that impact public safety was a topic of interest, the search proceeded through the Capella University Library and other popular databases such as Homeland Security Digital Library, International Security and Counter Terrorism Reference Center, Sage Journals Online, and SocINDEX with Full Text. An initial search with the term *disaster* yielded hundreds of studies. Limiting the search to *community and emergent volunteers*, *peer-reviewed*, and *qualitative study methodology* yielded at least 20 additional articles. Replacing the term *qualitative study* with *phenomenology* narrowed the results. Further searches including *community volunteers* and *phenomenology* located several peer-reviewed, full-text, and academic journal articles using the terms *emergent*, *spontaneous volunteers*, and *qualitative study*. The databases also contained articles similar to the previously searched studies, and terms such as *integrated volunteering*. Finally, terms such as *community coordination* and *disaster response* shaped advanced searches.

Theoretical Orientation for the Study

The theoretical framework for emergency management continues to evolve across multiple disciplines in public safety. As Montañó and Kasprzyk (2015) noted, human behavior and social phenomena are meaningful because they bind theoretical constructs in emergency management. In disaster management and public safety, theoretical constructs can account for attitudes, perceived norms, and personal behavior (Montañó & Kasprzyk, 2015). A

paradigm shift in social learning behaviors has been widely accepted, according to Drabek (2016) and Paton and Johnston (2017). These authors acknowledged a paradigm shift in attitude among emergency managers since September 11, 2001, the date of the attack on the World Trade Center, New York City. Further, Kuhn (2012) and Petty, Thompson, and Stew (2012) explained this paradigm shift aids emergency managers' understanding of the real environment and the factors that contribute to the development of knowledge and theoretical constructs of human behavior in complex events.

Ostrom (1998) viewed disaster management theories through a social construct that incorporated the process of testing for predictions. Rodriguez et al. (2017) asserted that emergency managers should not operate in autonomy, thus promoting an organizational framework that encapsulates human behavior and social nature within an interorganizational environment. Drabek (2004), Bernstein (2011), and Pizzo (2015) described a nonautonomous environment that seeks to enhance the collective effectiveness of interorganizational attitudes, norms, and behavior, conceptually as a normative theory. Through the natural course of knowledge advancement since September 11, 2001, a normative theory approach has emerged. This approach inspires specific strategic steps that have advanced risk reduction programs from entities such as the American Red Cross in organizational frameworks that advance tactical incident management systems (Drabek, 2004; Meerow, Newell, & Stults, 2016; Orencio & Fujii, 2013; Rodriguez et al., 2017; Sawalha, 2017).

The interorganizational framework for emergency management is designed to help emergency managers in public safety to be successful. The assumption is that a prescriptive strategy for success depends on multiorganizational involvement. Thus, a construct that hinges on experience and collaboration is critical. In this case, experience and collaboration are mutually exclusive. For example, Berlin and Carlstrom (2015), Christensen, Danielsen, Laegreid, and Rykkja (2016), Hashemipour, Stuban, and Dever (2017), McEntire (2004), Ley et al. (2014), and Redshaw, Ingham, Hicks, and Millynn (2017) acknowledged that irrespective of the amount of experience an emergency manager may possess, lack of collaboration with other

agencies can be disastrous to effective emergency management. Agencies from different sectors—public, private, and nonprofit—must join forces to coordinate resources and expertise to successfully enhance public safety. For example, Pramanik, Ekman, Hassel, and Tehler (2015) found that facilitating collaboration among organizations like the American Red Cross and other volunteer groups at all levels prevented the chaos that sometimes mars disaster responses and enhanced decision-making. Drabek (2004) acknowledged that for social theoretical constructs in emergency management to gain traction, an understanding of the different environments, disaster vulnerability, and the paradigm shift of a social reality must inform further research, to help emergency managers with the in-depth planning of their emergency programs. Even though public safety research is still evolving, disasters continue to shape theoretical frameworks and the different beliefs people form about disasters, thus, advancing theoretical competitiveness in a paradigm shift and building a disaster resistant community (McEntire, 2004).

Very little theoretical framework has emerged from CERT research, but the impact of disaster research on communities has increased since the community as a resource model was introduced in 1978 by Litchterman (2000). Federal, state, local, and regional emergency managers fully support this model and its objectives. The contribution of volunteer programs such as CERTs to emergency management and communities, especially in areas prone to serious disasters, has been significant (Aminizade et al., 2017; Carr & Jensen, 2015; Flint & Stevenson, 2010; Grimm, 2014; Haataja et al., 2014; Linnell, 2014; Ochiai, 2014; Prater & Wu, 2002). Because no established theoretical framework existed to guide this study, the aim was to adopt frameworks within community resilience and disaster preparedness that may advance the study. For this study, three theoretical constructs within public safety and emergency management supported exploration of the phenomenon of how CERT coordinators manage and coordinate CERT integration and volunteer activities predisaster: chaos theory, control theory, and role theory.

Chaos Theory

Chaos is inevitable in disasters; thus, conceptualizing a disaster in terms of the social factors (such as stress) that it breeds is not far-fetched. As the literature suggested, the outcome of most disasters leave a community physically, spiritually, financially, and psychologically bankrupt (Barraket et al., 2013; Hamerton et al., 2015; Twigg & Mosel, 2017). As result, chaos is assured, and communities scramble to coordinate resources to deal with the level of chaos that arise in crisis situations (Barraket et al., 2013; Barsky et al., 2007; Carr & Jensen, 2015; FEMA, 2017; Flint & Brennan, 2006; Flint & Stevenson, 2010; Hamerton et al., 2015; Ludwig et al., 2015; Meyer et al., 2016; Ochiai, 2014; Perry, 2004; Rivera et al., 2015; Rodriguez et al., 2017; Scanlon et al., 2014; See, 2013; D. M. Simpson, 2001, 2002; van Gorp, 2014; Whittaker et al., 2015).

The initial description of chaos theory stemmed from Meteorologist Edward Lorenz, in the wake of increasing uncertainty in predictions of flood disasters (Sellnow, Seeger, & Ulmer, 2002). To manage disasters successfully and to address chaos theory, it is essential to ask the following question: Is complex system a drive for the capacity for order? The idea that most communities develop better disaster management plans based on complex what-ifs is not a radical concept. Raisio and Lundström (2017) noted that chaos cannot be managed using a top-down or linear approach because the end goal is not to achieve perfection, the way some corporations view management. A successful approach looks beyond attempting to control the process of management and coordination. Rather, it aims to predict the outcome and plan for contingencies before an occurrence. Reports indicated that communities plan for disaster prevention and mitigation with the understanding that a paradigm shift in a worldly view of disasters has since evolved from acts of God to natural hazards (McEntire, 2004).

For this reason, cities such as New Orleans, which experienced Hurricane Katrina in 2005, experienced an unpredictable shift in resource allocation and system efficiency. *Chaos*, as defined in this context, is a change that results in discontinuity and irregularity in a system that was once considered whole (Koehler, Kress, & Miller, 2001). Theorists Montañó and

Kasprzyk (2015) attempted to tie chaos theory to an earlier assertion that human behavior and social phenomena describe a paradigm shift in emergency management, in which the theoretical construct attributes to attitude, perceived norm, and personal behavior or agency in a linear system of disaster management.

However, Levy (1994) argued that a chaotic model does not necessarily fit into a linear system in which observation and measurement of attitude, perceived norm, and personal behavior readily reduce volatility in disastrous situations. A good example is the 1995 Kobe earthquake in Japan, where community volunteers and nongovernmental organizations were tasked to fit in a linear system of disaster management originally designed for trained government responders, who were absent in the aftermath of the earthquake (Choate, 2011; Figueroa, 2017; Ludwig et al., 2015; McMorran, 2017; Twigg & Mosel, 2017; van Gorp, 2014; Yamamura, 2013). Similarly, disasters across the United States have realized continuous testing of chaotic models to reduce vulnerability and volatility of factors that undermine effective coordination and emergency management. Aminzade et al. (2017), Bundy, Pfarrer, Short, and Coombs (2017), Bromley et al. (2017), Rotolo, Wilson, and Dietz (2015), Whittaker et al. (2015), and Sellnow et al. (2002) found that the typical interface between systems and interactions decreases the chances that conflict will occur. Specifically, the implication of chaos theory to the 2005 Hurricane Katrina revealed a dysfunctional system and disarray in government disaster preparedness planning, in which high stressor conditions quickly worsened an already complex and chaotic situation (Boersma, Comfort, Groenendaal, & Wolbers, 2014; Boin & Bynander, 2015; Piotrowski, 2006; Waldman, Verga, & Godsoe, 2016).

Disaster management in public safety is still evolving, and research into chaos theory in both linear and nonlinear systems in all sectors of disaster prevention and planning is still ongoing. However, it should not be mistaken to mean that chaos theory is emblematic to effective coordination because, as Levy reported, chaos theory is still at its infancy stage and within the social sciences and emergency management, having high expectations in its application and usefulness is

not ideal. Chaos theory, in its application to different sectors, may attempt to address various outcomes because, as Raisio and Lundström (2017) and Thietart and Forgues (1995) opined, some organizations and communities thrive in stability whereas others do so in instability, in which counter forces develop knowledge borne from systems that create social phenomena and human behavior. Community resilience inspires a stable and efficient disaster recovery. As the literature notes, community responses to disasters in the United States continue to show the relevance of localized knowledge, personnel integration, and resource coordination (Kalkman & de Waard, 2016; Patterson, Weil, & Patel, 2010; Walker, de Vries, & Nilakant, 2017). This response strategy hinges on a command and control paradigm that seeks to reduce vulnerability and improve life safety in a disaster.

Control Theory

Control theory first appeared in 1987. According to Klein (1989), this theory did not fully develop as a theory in psychology. Control theory, also known as meta theory, focuses on human behavior and motivation. Carver and Scheier (1982) opined that psychologists concentrate on a holistic approach that seeks to examine an individual's behavior in detail. In this way, control theory allows for complex behavior to be analyzed hierarchically (Carver & Scheier, 1982; Klein, 1989). As a matter of principle, perception links to this theory.

Perception is based on feedback that is being integrated explicitly to attain reactions from individuals based on their cognition, behavior, and role of attributions (Klein, 1989). Their state of mind determines the way people process information in a disaster. State of mind could affect a person's perception of threats and how they chose to react to the threats. Positive or negative reactions impacts behaviors to a large extent such that decision making at a time when one's current state of mind is affected by an event such as a disaster, information processing, and self-regulation could become very critical. Klein (1989) and Carver and Scheier (1982) also suggested behavior and feedback are not mutually exclusive. In disaster management, volunteers display positive and resilient behavior; however, dependence on motivation and behavioral responses is critical to

understanding control theory through the lens of social science.

Leadership in emergency management fits within the development of knowledge and the theoretical construct of human behavior in complex events (McEntire, 2014; Rodriguez et al., 2007). A contextual understanding of evacuation and coordination efforts after human-made or natural disasters is critical to understanding how control theory applies in public safety. For example, swift and clear decision making is vital because fragmented responses resulting from a lack of leadership in disaster situations are considerable cause for alarm (Dynes, 1970). For this reason, a clearly defined hierarchy of command and control is necessary in agency coordination tactics and support (Waugh, 1993).

Hierarchy of command in this context means an established structure in which different levels of coordination and decision making occur. The term *control theory*, which researchers have used interchangeably with *choice theory* (Glasser, 1984), implies the need to gain effective control of complex situations in disaster management, and the term *choice theory* applies to the principle by which control theory operates. That is, control theory explains that social behavior and active thinking promote good decision making in stressful circumstances. Glasser (1984) noted that decision making heightens stressors, and making effective decisions in complex situations such as disasters tests a person's ability to not merely react but to handle decisively events as they unfold.

Command and control in disaster management occur in the operations and tactic stage in incident management. According to Imperiale and Vanclay (2016), the community serves as reliable first responders in the aftermath of a disaster and therefore, disaster planning should follow a command and control model that will reduce any bottleneck in integrating community volunteers to the response system. An effective control model seeks to reduce overreliance on experienced responders who may not be readily available following a disaster. A command and control framework utilizes a theoretical construct comprised of attitudes, perceived norms, and personal behavior in that the community feels a social

responsibility to be empathetic and instinctive and to contribute personal resources to restore normalcy.

The implication of control theory to emergency management lies in the simple and linear hierarchy of decision making in the face of crisis to minimize chaotic conditions with clear strategies and effective leadership (Kalkman & de Waard, 2016; Patterson et al., 2010; Pizzo, 2017; Sellnow et al., 2002; Walker et al., 2017; Watson et al., 2014). For example, disasters such as the 2005 Hurricane Katrina and 2001 World Trade Center bombing brought to light the challenges emergency managers face in an increasing paradigm shift and in unfamiliar environments that impact local decision makers and test fragmented responses from leaders in emergency management. Control theory adopts a strategy that continuously seeks goal-driven individuals to operate in direct control. Within this theoretical construct, effective leaders can emerge from the community or government agencies.

However, studies showed that in a disaster, leaders who operate effectively within the command framework often come from the community. That is, citizen volunteers, due to their instinctive nature, tend to take over amid chaos in disasters (Apsan, 2013; Barsky et al., 2007; Carr & Jensen, 2015; Drabek, 1991; Drabek & McEntire, 2003; Dynes, 2004; H. W. Fischer, 2002; Imperiale & Vanclay, 2016; Pizzo, 2015; Rivera et al., 2015; Scanlon et al., 2014; Stallings & Quarentelli, 1985). For example, the September 11, 2001, attack brought together volunteers from different backgrounds to assist in different capacities. At least 40,000 volunteers converged at ground zero to offer support and assistance despite not having any clear preplanned roles (L. Fernandez et al., 2006; Jensen et al., 2014; Sauer et al., 2014; Twigg & Mosel, 2017). In a similar fashion, following Hurricane Katrina in 2004, thousands of volunteers converged at the site to help (Ai et al., 2013; Harris, Shaw, Scully, Smith, & Hieke, 2017; Koven & Brennan, 2014; Orloff, 2011).

Before Hurricane Katrina, FEMA utilized the American Red Cross as a formal resource to communities and provided full funding to the program. However, after Hurricane Katrina, FEMA granted additional funding to support community response volunteer programs such as CERTs

(Carafano, Marshall, & Hammond, 2007; Eisenman et al., 2014; Ossey et al., 2017). Since these major incidents, formal organization of community volunteers has steadily increased (L. Fernandez et al., 2006; Franke & Simpson, 2004; Jensen et al., 2014; Skar, Sydnes, & Sydnes, 2016; Twigg & Mosel, 2017). For this reason, control theory viewed through the lens of social behavior and command paradigm shows how citizen volunteers are resilient in the wake of disasters and develop coping mechanism to survive despite the chaos and panic that often arise in disaster situations.

Resilience theory fits within a command and control paradigm. *Control*, as defined by Holling and Meffe (1996), examines the structural shift of control and process organization that defines the other influences surrounding how resilient people respond during the uncertainties typical in a disaster. In this context, resilience contributes to a person's capacity to respond effectively. Chi, Williams, Chandra, Plough, and Eisenman (2015), Cohen et al. (2016), Cox (2012), Drabek (2014), and Hashemipour et al. (2017) indicated that community resilience theories focus on the community's ability to respond well to disasters as they occur and to realize that their perceived reality is not independent of their own experience and beliefs. The collective beliefs of the community are part of the interdependence of individuals who are valued and expected to hone their skills and interact socially in a disaster. Each individual has a role to play in a disaster, and existing research theories in emergency management recognize that the theoretical framework in emergency management is still evolving (Drabek, 2014; Dynes, 2004)

Role Theory

Role theory, founded by social philosopher George Herbert Mead, anthropologist Ralph Linton, and psychologist Jacob Moreno, addresses the rules of engagement that apply to people in positions of authority. Role theory links objective reality and individuals' subjective experiences. Role theory is critical to understanding interoperability and cooperation in disaster response among volunteers who need clear roles in a disaster (Béreš, n.d.). Role theory models a chain of command principle that sets expectations on behavior and consistency to reduce conflict or chaos. According to Rizzo, House, and

Lirtzman (1970), within a disaster framework, a hierarchical relationship must be established to allow for a flow of control that is manageable and effective. In this framework, formal structures in which emergent volunteers and other emergency responders have clear tasks and roles assure efficiency. The idea is that a trial and error approach (Rizzo et al., 1970) is doomed to fail during a disaster and leads to chaos.

Reissman (1949) acknowledged that in every social environment, identifying and assigning clear tasks is only a first step. Another step is to address the relationship and mutual respect informal systems or organizations have shared with formal organizations within established bureaucratic rules. Within emergency management, theoretical research on role theory is limited because of the challenge in understanding functional relationship between formal structures and informal systems. Lack of consistency in a chain of command principle through faulty organizational decision-making inhibits coordination and bureaucratic authority and power in most informal systems. As Holling and Meffe (1996) noted, understanding variations within different systems helps with managing and aligning objectives. Managing objectives is critical to disaster management. Chaos in resources and personnel without clear objectives leads to a risk of role conflicts. The structural approach to role theory explained how disaster managers organize and coordinate resources and tools. According to Curnin, Owen, Paton, Trist, and Parsons (2015), Guldåker, Eriksson, and Nieminen Kristofersson (2015), Klappa, Audette, and Do (2014), and Kreps and Bosworth (1993), an organization involved with external players uses factors such as how it organizes activities and resources to evaluate its structure. Identifying and labeling a disaster role for volunteers should include an overarching objective for training volunteers to assist professional responders. Regular interactions between volunteers and professional emergency responders is an existential disaster response framework in which volunteers have clear roles.

Application of role theory to this study helped maintain the focus on the experiences of community volunteers and their interactions with professional emergency responders in the disaster response framework in which volunteers have defined roles.

Additionally, role theory applies to effectively staging volunteers. As Fitzpatrick and Molloy (2014), Schmutz, Hoffman, Heimberg, and Manser (2015), and Studer and von Schnurbein (2013) asserted, understanding role processes helps shape and improve interventions and transforms the volunteers' experience of addressing challenges they encounter. Role theory is relevant to this study given that integrating CERT members into the emergency management system is not a formal practice shared by multiple agencies. Therefore, exploring interoperability and coordination will advance the scientific knowledge of emergency management in public safety. Also, it will address how resources and activities are organized and formalized with external players. For example, previous findings suggested that role clarification strengthens team camaraderie and closes gaps between volunteers' intentions and their actual practices, which in turn boosts morale (Barraket et al., 2013; Hamerton et al., 2015; Hearn & Deeny, 2007; McNamee & Peterson, 2016; Porter & Henriksen, 2016; Rotolo et al., 2015) and enhances response flexibility during a disaster.

Planning for emergent volunteers typically takes place at the local, state, and federal levels and involves traditional volunteers (from reputable organizations, like the American Red Cross) who interact with other agencies. Government agencies recognize traditional disaster volunteers such as those from the American Red Cross Society, which supports different operational functions within the incident command system. The American Red Cross has long held an established role in the history of disasters in the United States. According to der Heide (2003), FEMA does not direct the staffs of the American Red Cross or other long-standing disaster volunteer organizations on specific support tasks in a disaster response operation. However, FEMA recognizes the ability of these groups to effectively coordinate emergency support functions within the national response framework (Buck, Trainor, & Aguirre, 2006; Waldman et al., 2016; H. Zhang, Zhang, Comfort, & Chen, 2016).

Community volunteers have yet to earn the same recognition as the American Red Cross. Local emergency management systems function and interact with organizations such as the American Red Cross and other multilevel agencies. However, community

volunteers in nontraditional organizations have yet to align functionally within an incident command system. This lack of full alignment makes it especially difficult to introduce new approaches to the local emergency management systems and creates a decision-making issue for professional responders who have to deal with citizen volunteers (Allen, Karanasios, & Norman, 2014). Integrating community volunteers into the emergency management system is not a formal practice embraced by multiple agencies. Public safety research highlighted how the basic premises of chaos theory, role theory, and control theory fall within a command and control paradigm (Drabek & McEntire, 2003). When a disaster occurs, the community is the first to be impacted and the first to respond before government resources become available. Emergency management theories—chaos, role, and control—support the notion that in the wake of a disaster, people tend to spring into action and do not panic (Christens & Speer, 2015; Drabek & McEntire, 2003; Lindell, 2013). According to Dynes and Drabek (1994), citizens quickly become emergent volunteers and step into support roles to assist others in coping with the disaster. Volunteers adapt systematically in a manner that allows them to be used by formal emergency responders to help reduce the amount of chaos and improve the efficiency of emergency management.

The command and control framework, as described by Drabek and McEntire (2003), Jensen and Thompson (2016), and Salas, Cannon-Bowers, and Weaver (2017), falls short of the hype that most people attribute to effective disaster management. The reason is that the command and control paradigm has not always worked because maintaining law and order and resource capabilities after disasters is challenging to role clarity, resource control, and uncontrolled chaos. For example, a mutual aid agreement that takes effect following a disaster is only efficient when volunteers are woven into the fabric of a local emergency plan and have received basic disaster training. If citizen volunteers want to assist but do not have a role, a dysfunction in the response process could frustrate the efforts of the government and other responding agencies (Rodríguez-Espíndola, Albores, & Brewster, 2018). Formal plans in a functional control framework could expose the inefficiency of the role and chaos theories such that the latter depends on the emergency

action framework that works, whereas the former is difficult to attain if control and flexibility of responders are not preplanned (Boersma et al., 2014).

Review of the Literature

Background Information Regarding Disaster Research
Disasters are inevitable, yet public safety policies continue to evolve as reliance on government for effective response coordination remains a public concern. Studies continue to show little alignment of objectives among governmental agencies and the private sector toward effective emergency management. The following literature review will examine the way CERTs are integrated into emergency management systems, that is, into local jurisdictional planning and any factors that explain variations of the integration that occurs (Carr & Jensen, 2015). Understanding how emergency management has evolved to the extent that citizen volunteers emerge after a disaster to assist experienced disaster responders is critical in today's research.

According to FEMA (2008), the U.S. Congressional Act of 1803 provided legislation that gave relief to communities impacted by wildfires. Before the 1930s, as Clary (1985) noted, the U.S. Congress responded to specific disasters. Essentially, any aid Congress provided to assist victims came only in response to specific disaster events. The 1930s saw a shift in government's policies on disaster response, and during this time, the emergency response approach was most popular, and Americans welcomed the initiative (FEMA, 2017).

For example, the federal government took measures in 1936 to mitigate flood disasters by authorizing the Army Corps of Engineers the authority to set up dams, levees, or dikes for this purpose (Drabek, 2004; Kolen & Helsloot, 2014; Rogers, 2016; Wells, Springgate, Lizaola, Jones, & Plough, 2013). The role of the federal government became more significant in the late 1950s at the height of the Cold War, when the federal government sought to supplement its roles at local levels of government. The federal government's supportive role became more practical in the late 1960s as communities became more involved as the United States experienced a rise in other major disasters such as hurricanes and earthquakes in addition to the floods and fire that had been the major

legislative focus. Later, as the FEMA (2017) website pointed out, President Carter signed a few executive orders for separate disaster-related responsibilities that provided relief in the form of insurance, fire prevention and control, and weather service preparedness as a way to improve the government's initiative on disaster preparedness.

According to Haddow et al. (2008), Holzheu and Turner (2018), McAneney, McAneney, Musulin, Walker, and Crompton (2016), Raikes and McBean (2016), and Rodriguez et al. (2007), the federal government's outreach to communities and the establishment of low-cost flood insurance advanced community disaster preparedness during this time. The Office of Civil Defense and the Office of Emergency Preparedness stepped in to assist communities impacted by Hurricane Camille; these communities had either expired insurance or numerous settlement issues with insurance companies. Many considered the government's involvement as a positive step considering the infrastructural damage caused by the Hurricane (Morris, 2014). Specifically, a 1968 act brought about the community-based mitigation that allowed local agencies to be major stakeholders. Financial losses are a part of disasters, but legislative actions by the government have been encouraging since the 1930s. The first real piece of legislation that encouraged research on earthquake loss reduction emerged in the wake of the San Fernando earthquake in 1971. This act was the first real challenge to the government in the shift to prevention through research (Birkland, 2006).

Furthermore, the government expanded disaster programs under the Department of Emergency with the sole purpose of coordinating specific disasters with different causes, and the number of disaster programs grew to about 100 (FEMA, 2017). Despite the positive impact the expansion was expected to bring, politics played a role in the way victims viewed disaster prevention programs and network relationships (Beckett, 2013; Kapucu & Garayev, 2016; Prater & Wu, 2002; Vale, 2014). Specifically, the government was challenged to focus on prevention and be more proactive. Creating a better framework that yielded better coordination among the different disaster programs within the government and the community became critical. For this reason, having a single point

of contact for disaster response in different agencies within state and local government was critical to advance a framework that centered on mitigation and recovery. Lindell (2013) and McAneney et al. (2016) noted that "donor-victims" (p. 811) were frustrated with the bureaucracy and long waits to receive loan repayments to support victims with no disaster insurance. Sources of disaster funding to aid victims without disaster insurance for their homes were directly correlated with the perceived slow response of government's initial involvement following a disaster (FEMA, 2017; Huang & Hosoe, 2017). People seek out insurance companies to come to their aid during such times because they cannot rely on the government to assist them (Kwan & Walsh, 2017).

The premise of providing insurance and empowering the community through disaster preparedness training was to address the government's slow responses to disasters (FEMA, 2017). The federal agencies' framework of mitigation and recovery focuses on the community. Therefore, on the community level, raising disaster prevention awareness allowed the community to protect their environment by reporting any form of environmental releases in the form of chemicals or toxic waste. Rodriguez et al. (2006) noted an increase in the public's knowledge and access to information about chemicals in public and private establishments. The 1980s saw a much-improved collaborative relationship with states that experienced hazardous chemical or waste release as Superfund Amendments and Reauthorization Act legislation was introduced in 1986 (Merchant & Stevens, 2017; Rodriguez et al., 2007) to provide immediate funding and resources. According to Haddow et al. (2008), in recent years, disasters have transitioned from emergencies that can be addressed by single agencies to events that require responses from multiple agencies. This transition birthed a mutual aid agreement that enhanced collaboration and helped build and sustain a unified state emergency management across the United States.

The need to expand agency collaboration to utilize resources effectively heightened after the bombings of the Murrah Federal Building in Oklahoma City and World Trade Center in New York (Valcik & Tracy, 2017). Before the early 2000s, most of the disasters that the government supported had been managed by

legislation that fit into the framework of disaster response and prevented loss of lives. However, the Oklahoma City and New York City bombing highlighted the potential for a unified command system (FEMA, 2017) that would coordinate and dispatch of resources across state lines and jurisdictions without complications. A surge of community involvement in the form of disaster response volunteering followed these two events (Flint & Brennan, 2006). Citizens instinctively reacted and wanted to help others in a disaster even if they were also victims of the same disaster (Drabek, 1991; Drabek & McEntire, 2003; Dynes, 2004; H. W. Fischer, 2002; Imperiale & Vanclay, 2016; Pizzo, 2015; Scanlon et al., 2014; Stallings & Quarentelli, 1985). Community involvement in disaster response within any jurisdiction requires efficient coordination throughout the full life cycle of a disaster, response, recovery, mitigation and preparedness (Drabek, 2004; Orloff, 2011). Multiorganizational networks align their procedures with the full life cycle by utilizing, distributing, and sharing personnel and resources from all levels of government as well as private sectors. In this framework, citizen volunteers are emergency responders because of their level of involvement and the support they provide in disaster response.

Given the different outcomes of disaster response strategies and the frequency of disasters, this study aimed to shed light on citizen volunteers' perceptions and experiences of disaster response integration with professional responders in the surrounding jurisdictional emergency management structure before and during disasters. Emergency management systems at the local level are a combination of organizations, strategies, systems, process assets, and structural and operational activities defined to address risks or threats and the consequences of their relationships (Carr & Jensen, 2015; Ochiai, 2014; Yamamura, 2013). Most citizen volunteers provide support during disasters with basic tasks such as distributing supplies and coordinating resources (Flint & Stevenson, 2010; Gall, Nguyen, & Cutter, 2015; Schmutz et al., 2015). Still, these citizen volunteers may lack first responder skills to assist professional responders during disasters despite their good intentions to volunteer in a disaster. For this reason, most communities are embracing community emergency response organizations such as CERTs. CERTs prepare citizens with training on basic

first responder skills, such as fire suppression and safety, life safety and medical services, team collaboration and organization, and search and rescue safety in disaster preparedness (Barsky et al., 2007; Carr & Jensen, 2015; Flint & Brennan, 2006; Linnell, 2014; D. M. Simpson, 2001). FEMA offers support in community disaster management by providing awareness, resources, and emergency response outreach programs to harness the power of volunteers and advance community emergency resilience and preparedness (Citizen Corps Council, n.d.).

The research literature on emergent volunteers indicated that citizens' overall capability to respond through training and community involvement has been enhanced throughout the United States (Carr & Jensen, 2015; Dorasamy, Raman, & Kaliannan, 2017; Eisenman et al., 2014; Flint & Stevenson, 2010; Grimm, 2014; Haataja et al., 2014; Lindel, 2013; Ochiai, 2014). Additionally, support from CERTs in disaster-affected areas has resulted in significant improvement in recovery processes following disasters (Flint & Brennan, 2006). Despite some successful integration of CERTs in some community emergency management systems, policy problems still exist and reveal serious concerns for volunteers who risk being victims themselves as a result of poor coordination or communication in a disaster (Carr & Jensen, 2015; Grimm, 2014; Haataja et al., 2014; Orloff, 2011). The extent to which integration occurs for CERTs into formal local emergency systems and any factors that might explain variations of such integration are as yet unknown.

In the field of public safety, groundbreaking research with a focus on emergent responders in the social context of disasters explored trends in disasters, lessons learned, and their influence in current disaster research. Current research highlighted progress on disaster research that embraced a response framework and modeled an all-hazard approach to mitigation, preparedness, response, and recovery (Huang & Hosoe, 2017; Kuada & Bannerman, 2017; Lindell & Perry, 1992; Oloruntoba, 2013; Orloff, 2011). As a result, planning for community volunteer coordination into the emergency management framework is scarce. In such framework, an incident command management system and a national incident management system (Drabek, 2018; McLoughlin,

1985) formulate support functions for nonprofessional emergent volunteers for effective coordination in a disaster.

Literature Regarding Lessons Learned

One of the lessons learned from past disasters in the United States was that government's response to disasters may be slow. In fact, results indicated that some communities waited a very long time to receive federal or state assistance in a disaster (Choate, 2011; Ludwig et al., 2015; van Gorp, 2014; Yamamura, 2013). Most communities now understand the effects of a slow governmental response with aid after a disaster. Therefore, citizen volunteers work with local agencies to support efforts that reduce the disappointment others in the community may feel as they wait. These volunteers take up small tasks that seek to keep communities informed and reduce the suffering (Barraket et al., 2013; Reuter & Kaufhold, 2017; Twigg & Mosel, 2017; Yamamura, 2013).

For example, during Hurricane Isabel in Virginia, citizen volunteers assisted by distributing fact sheets and providing updates on the storm to affected communities after the power had been out for more than a week. Also, citizen volunteers assisted local authorities to distribute food and water to affected communities (Aldrich & Meyer, 2015; Franke & Simpson, 2004). Some volunteers helped with organizing and filling sandbags in preparation for a destructive storm (Ludwig et al., 2015). Similarly, during flooding in Elbe and Oder, Germany, in 2006 and 2010, emergency volunteers were responsible for instigating relief activities (Detjen, Volkert, & Geisler, 2016). Some examples of how these volunteers helped during the flood were by providing equipment to neighbors to pump out underground water and clean up streets, according to Detjen et al. (2016). In the same vein, Ludwig et al. (2015) noted that citizen volunteers organized and took up roles to restore normalcy after a disaster occurs.

Another aspect of lessons learned focused on the most vulnerable population, that is, seniors who lived in assisted living facilities. These seniors required immediate assistance, mostly due to health, aging, and language barriers (Ashida, Robinson, Gay, Slagel, & Ramirez, 2017; Kwan & Walsh, 2017; See, 2013). Often, elders may feel helpless; therefore, it is

important to get them support immediately following disasters. During Hurricane Sandy in 2012, some volunteers journeyed to senior homes and knocked on doors, engaged the seniors, helped with language translation, and took senior citizens glucose, according to See (2013).

Literature Regarding Trust and Legitimacy

According to Orloff (2001), local agencies continue to fail to embrace the notion that citizen volunteer *convergence provides a sense of restoration and balance for a grieving community in the aftermath of a deadly disaster. Failing to plan for and dissuade any negative impression about the valuable assistance volunteers provide to professional responders is an ineffective approach to a holistic emergency response efforts. Past disasters in the United States showed a gap in the lack of actionable framework with mechanism aimed at expanding the stakeholder lists during risk reduction planning, specifically one in which citizens took on major roles as contributors (Detjen et al., 2016; Reuter & Kaufhold, 2017; N. C. Simpson & Hancock, 2009; Webersik, Gonzalez, Dudgale, Munkvold, & Granmo, 2015). Expanding the stakeholder lists in a disaster response framework entails accepting nonprofessional emergency professionals such as CERT volunteers into the emergency system. Nevertheless, the outpouring of spontaneous volunteering still requires a formal structure to align disaster response objectives.*

Studies showed that the significant role CERTs play in large emergencies is sometimes marred by issues of trust and proof of worth (legitimacy) before the system can allow them to mix with experienced professionals (Bernard, 2011; Boin & Bynander, 2015; Curnin et al., 2015; Drori & Honig, 2013; McLeod, Epley, & Silenas, 2008; McNamee & Peterson, 2016). The literature suggested that the lack of role clarity for some entities such as CERT is a contributory factor for the rejection by professional responders during disasters (Curnin et al., 2015; Rico, Hinsz, Davidson, & Salas, 2017; Schmutz et al., 2015). For example, uncertainty about CERTs' legitimacy, utilization, and liability issues is the cause of the rejection citizen responders' face during disasters, in spite of the known documented value CERTs bring to disaster response. Citizen involvement is normal, needed, and ultimately beneficial to disaster response and recovery efforts

(Barsky et al., 2007; Carr & Jensen, 2015; Flint & Stevenson, 2010; Jensen & Carr, 2016; Scanlon et al., 2014; Skar et al., 2016).

Studies also revealed that professional responders often view nonprofessional volunteers as people who represent themselves due to limited response tools and equipment that raises questions about professional legitimacy and authority. For example, in most communities, volunteer firefighters have established themselves and successfully integrated themselves into a formal structure in firefighting because they receive the same level of training as professional firefighters. They are thus not viewed through the lens of a temporarily built group for a chaotic, spontaneous disaster situation (Detjen et al., 2016; Studer & von Schnurbein, 2013). Establishing written guidelines that outline roles and scope of volunteers' tasks may help with effective coordination (Studer & von Schnurbein, 2013). Unlike professional responders, who are representatives of organizations, CERT volunteers lack the resources to establish legitimacy and authority (Brudney & Meijs, 2014; Detjen et al., 2016; Kvarnlöf & Johansson, 2014). For instance, when viewed through the same lens, CERT volunteers are not on the same level as the American Red Cross volunteers, who are considered mainstream and broadly recognized in multiagency level emergency responses. Agencies like the American Red Cross are accepted and volunteer alongside experienced professionals such as EMTs and firefighters, playing a critical role in assigned functions (Barraket, 2013; Brudney & Meijs, 2014; Skar et al., 2016; Waldman et al., 2016).

Professional volunteers may not trust the capability of CERT volunteers. Why does trust and legitimacy matter for CERT volunteers? Volunteers receive training with curriculum developed by FEMA through the CERT programs. The curriculum entails disaster preparedness and response. Despite the content of the training, a potential remains that when real disasters occur, and these volunteers are activated to respond, professional responders may not fully understand the level of training they received. Therefore, trust and liability concerns still loom among professional responders who may not be willing to fully accept CERT volunteer credentials as legitimate proof a

volunteer has the necessary skills to handle uncertainties in a disaster.

Also, professional responders may not be familiar with the training CERT volunteers receive. Hence, they may not be open to assuming responsibility for CERT volunteers or assigning tasks to CERT volunteers during the disaster response. In their studies, Rivera et al. (2015) and van Gorp (2014) found that lack of social integration of emergency volunteers into disaster preplanning occurs because of lack of trust, commitment, and collaboration. In spite of these challenges of legitimacy and trust, emergent volunteers from CERT organizations have achieved integration with professional responders in some disaster situations. For example, following the World Trade Center attack on September 11, 2001, volunteers recorded a positive acceptability experience from a reputable organization that operated from a secure area.

A record number of 40,000 unaffiliated volunteers arrived at ground zero in the weeks after the bombing and worked to fit into the incident command structure in whatever capacity they were needed (L. Fernandez et al., 2006; Jensen et al., 2014; Sauer et al., 2014; Twigg & Mosel, 2017). During the aftermath of Hurricane Katrina in 2005, a large number of New Orleans residents benefitted from posttraumatic counseling and spiritual healing provided by volunteers all over the United States. The counseling exercise reinstated some basic trust in humanity to these residents (Ai et al., 2013; Twigg & Mosel, 2017). Merger of efforts of volunteers and professional volunteers occurred seamlessly and provided many benefits, and the volunteers remained flexible and adaptive throughout the crisis (Curnin et al., 2015; Ludwig et al., 2015; Scanlon et al., 2014; Twigg & Mosel, 2017; Waldman, Yumagulova, Mackwani, Benson, & Stone, 2017; Webersik et al., 2015). Similarly, during the 1995 Kobe earthquake in Japan, community volunteers and nongovernmental organizations filled in for absent first responders, further highlighting the tremendous value of citizen volunteerism (Choate, 2011; Figueroa, 2017; McMorran, 2017; Twigg & Mosel, 2017). Another example of citizen volunteer support took place during the 2004 Tsunami disaster in which 90% of victims reported that other civilians came to their aid before

the arrival of professional responders (Drabek, 2018; Quarantelli, Boin, & Lagadec, 2018; N. C. Simpson & Hancock, 2009; Twigg & Mosel, 2017).

Organizational trust enhances collaboration, which further promotes the reputation and legitimacy of the volunteers. Disaster planning with activities centered on CERT volunteers needs to occur as an initial process in disaster management (Kaleem, Majeed, Khan, Afzal, & Bashir, 2015). As the literature indicated, people possess an instinct to help out others in the wake of disasters (Apsan, 2013; Barsky et al., 2007; Carr & Jensen, 2015; Drabek, 1991; Drabek & McEntire, 2003; Dynes, 2004; H. W. Fischer, 2002; Imperiale & Vanclay, 2016; Pizzo, 2015; Rivera et al., 2015; Scanlon et al., 2014; Stallings & Quarentelli, 1985). The idea that local capabilities may be overtaken by the needs of the community after a disaster implies the need for communities to be prepared for disasters. Carafano et al. (2007), Schmutz et al. (2015), Shepherd and Williams (2014), and Kolen and Helsloot (2014) noted that national resources deploy days after a disaster occur causing some communities to wait for days. The basic premise of citizen emergence and convergence during a crisis is that the community shares a spirit of togetherness (Bach, 2015; Imperiale & Vanclay, 2016; Madsen & O'Mullan, 2016; Michael, Lurie, Russell, & Unger, 1985; Mosavel, Ahmed, Ports, & Simon, 2015). People will always look out for themselves and others around them.

For this study, it was important to distinguish the volunteers who were not equipped with the relevant skills and training for emergency management. In CERTS, private citizens receive basic training to assist their communities after disasters occur when emergency services are not immediately available. CERT members are trained by certified trainers on specific disaster management concepts that include disaster preparedness, disaster fire suppression, disaster medical, light search and rescue, disaster psychology, and disaster simulation exercise (Barbour & Manly, 2016; Barsky et al., 2007; Carr & Jensen, 2015; FEMA, 2017; Flint & Brennan, 2006; Flint & Stevenson, 2010; Linnell, 2014; Mackwani, Sullivan, & Cross, 2016; Ochiai, 2014). The training prepares CERT members to fill roles and meet responsibilities when activated. The literature also suggested that

CERT members have the potential to improve coordination efforts within the different levels of an agency when they can align with professional responders during a disaster (Carr & Jensen, 2015; Connolly, 2012; Flint & Stevenson, 2010; Hamerton et al., 2015; Linnell, 2014; Waldman & Kaminska, 2015). The implication of a fully integrated trained emergent volunteer is a reduction of potential chaos in a disaster. When volunteers are trained and clear on what they are to expect in a disaster, they follow instructions and perform activities to support established incident objectives. During disasters, demands are uncertain, and resources can stretch thin within few minutes of a disaster. Resources may become available within hours of a disaster strike.

Emergent volunteers will go where the call for help is during such times, but they should not be left to perform tasks independently without directions and guidance. Functioning without an understanding of the complex nature of social network systems fuels the chaos that results from the disaster (Lindell, 2013; Reuter, Hughes, & Kaufhold, 2018; Reuter & Kaufhold, 2017; Uhr, Johansson, & Fredholm, 2008). Emergent volunteers improve the efficiency of a disaster management system if they have been trained and drilled to test their skills. In addition to training, validation and credibility become essential for emergent volunteers in disaster response. Formal volunteer organizations such as the American Red Cross fit well into a disaster incident command structure and do not have credibility issues as they have long been widely accepted and viewed as experienced responders. On the other hand, nontraditional emergency volunteers remain part of an informal unit that is relegated to a diminished role and referred to simply as *helpers* (Whittaker et al., 2015; Wilson & Musick, 1997) with no commanding leader. Volunteer organizations have difficulty with funding; hence, they are often viewed as an informal unit (van Gorp, 2014).

According to Kaleem et al. (2015), local emergency systems validate volunteers in CERT programs through membership and training. The performance evaluation, which is part of the training, is the first step towards volunteer credibility. Professional responders are likely to accept credible volunteers who they have learned to trust. Professional responders have argued that volunteers lack the relevant capability and

familiarity with emergency operations needed to reduce the impact of different challenges during disaster response. The literature suggested that most professional responders fear that the presence of volunteers at incident sites may make damage worse and increase the potential of responders' becoming victims themselves (Aminizade et al., 2017; Carr & Jensen, 2015; Destro & Holguin-Veras, 2011; Whittaker et al., 2015).

This dissertation explored the factors that allow for CERT volunteers to be fully accepted and formalized for successful jurisdictional planning to enhance effective coordination and collaboration in disasters. Resource constraints for some CERT programs limit participation and access to refresher training and practice drill participation. Several studies reported CERT volunteers' willingness to invest in emergency response equipment and tools to fit in with their jurisdictional emergency structure (Carr & Jensen, 2015; Flint & Stevenson, 2010).

Literature Regarding History and Emergence of Community Emergency Response Teams

Community emergency response teams (CERTs) in most states emerged primarily after the attack on September 11, 2001, at the World Trade Center in New York City (D. M. Simpson, 2001, 2002). Long before the September 11, 2001, bombing attack, the Los Angeles Fire Department put together an excellent CERT program following the 1994 Northridge earthquake. The Los Angeles Fire Department heightened outreach to the community (D. M. Simpson, 2001) through CERT. The September 11, 2001, bombing attack brought together volunteers from different backgrounds to assist in different capacities. At least 40,000 volunteers converged at ground zero to offer support and assistance, despite not having any clear preplanned role (L. Fernandez et al., 2006; Sauer et al., 2014). Similarly, following Hurricane Katrina in 2004, thousands of volunteers converged at the site to assist (Ai et al., 2013; McEntire, 2014; Pinkowski, 2008; Rotolo et al., 2015; Twigg & Mosel, 2017). Before Hurricane Katrina, FEMA utilized the American Red Cross as a formal resource to communities and provided full funding to the program. However, after Hurricane Katrina, FEMA granted additional funding to support community response volunteer programs such as

CERTs (Carafano et al., 2007; Carr & Jensen, 2015; Ward, Varda, Epstein, & Lane, 2018).

After these major incidents, formal organizations of community volunteers such as CERTs steadily increased (L. Fernandez et al., 2006; Franke & Simpson, 2004). Volunteers do not need to be dispatched to major emergencies because they naturally show up and ask how they can be of assistance. During major incidents, the volume of calls from volunteers skyrockets as emergency services are overwhelmed with requests for information from the community impacted by the disaster. Ludwig et al. (2015) noted that volunteers perform an enhanced assessment of a disaster situation after an initial information gathering process, following the emergency managers' or coordinators' determination that volunteers are needed to support the disaster. Citizen volunteers typically call in and request to be used in any capacity that is required. An official structural role for volunteers requires coordination and monitoring. Currently, no special staffing process is in place to assist emergency managers in integrating volunteers into a monitoring role (Ludwig et al., 2015) within the incident command system in jurisdictional planning.

In the same vein, since the Loma Prieta earthquake in the San Francisco Bay area, the level of consciousness for community preparedness has greatly increased. As of 2013, a tremendous rise in CERT programs had occurred in different cities across the San Francisco Bay area (Carr & Jensen, 2015; Lichterman, 2000; Ochiai, 2014). The implication for this research, which sought to explore how community emergency volunteers successfully integrate into predisaster planning, was that reliance on the government's initial response and support was impractical.

Safety is the highest priority in disaster management, and studies showed that swift response from government agencies and other experienced emergency responders within a day of a disaster occurring is impossible. Planning travel (especially for international responders), mobilizing resources, and securing funding could significantly impact preliminary efforts to gain control of the disaster. As a result, emergent volunteers are valuable because they are prompt and ready to help, even with little or no

training (Carr & Jensen, 2015; Flint & Stevenson, 2010; Grimm, 2014; Haataja et al., 2014; Ochiai, 2014; Prater & Wu, 2002). This research sought to influence policy changes that clarify ways the government can focus resources on the community by investing in community volunteering initiatives that promote free disaster preparedness training and awareness.

Literature Regarding Incident Command System and Chaos, Control, and Role Clarity in Disaster Response

Groundbreaking research continues to advance scientific knowledge and adapt role theory to explain how emergent volunteers can be integrated into disaster preplanning with clear roles. Role theory aligned most closely with this research, and exploring role theory may enhance the understanding of risks and opportunities in incident recognition, activation, mobilization, operations, demobilization, and recovery as critical functions within the role theory (L. Fernandez et al., 2006). Research benchmarking opportunities exist between the private and public sectors involving interoperability and information sharing in disaster situations, in which citizen participation and involvement could offer progress in the fields of public safety and emergency management. This study sought to ascertain different levels of CERT planning that might explain successful coordination and integration, thereby enhancing the contribution of the research to the field of public safety and emergency management and establishing that structural theory is relevant to the study.

The application of communication distinguishes control theory from chaos theory within the command and control paradigm. Specifically, the interaction among professional and community emergency responders highlighted the fundamental assumptions emergency managers make when drawing up a disaster response structure. Whereas the control theory utilizes a structural communication process that allows for interaction to inform the community in the aftermath of a disaster, chaos theory relies on the coordination of resources through role clarity and resource assignment (Boersma et al., 2014). Role theory objectifies trust and accountability such that teams within a multiagency and the community appreciate a culture that influences their decision-

making ability during a disaster. Unlike chaos and control theories, role theory adopts a command and coordination paradigm (Reissman, 1949; Rizzo et al., 1970). In spite of the level of experience of the emergency responders, clear understanding of roles allows for smoother interactions between internal and external responders and thus for resolution of any conflict of interest in norms and judgment. According to Alison et al. (2015), role theory differs significantly from chaos theory and control theory in that cohesiveness in response is strategic, enhanced by a collective sense of team decision-making based on situational awareness.

Role theory, chaos theory, and control theory require independent thinking with clearly established roles, timely response, and reliable and dependable information. These conditions ensure that responders do not depend solely on their own experience but rely instead on the links among all theories because, as Oloruntoba (2013) argued, people are more receptive to information and are often well led when the qualities of intelligence and decision making in chaotic conditions are high. Whereas chaos theory thrives in predictability (Sellnow et al., 2002), role theory thrives on preplanning and tactics, and control theory thrives on centralization of capabilities (Waugh, 1993). In a disaster, Oloruntoba (2013) opined, the command and control paradigm utilizes high-quality intelligence and tests emergency responders' perception of reality in such time through decision making and effective integration.

A distinct difference between role theory and chaos theory is that the margin of error for accurate prediction in strategic processes, such as weather events, earthquake, and other disasters, has to be very low to avoid a situation in which chaos is imminent. On the other hand, the margin of error for role theory depends on communication and an allegiance to a system that enhances credibility and trust (Ostrom, 1998; Sellnow et al., 2002). To that end, it is important to note that all three theories forecast human behavior in a complex and dynamic environment. The effectiveness of these three theories as they relate to disaster response hinges on integration, the establishment of credibility, trust, structure, and decision-making process flow (Drabek & McEntire, 2003; Ostrom, 1998; Reissman, 1949; Rizzo et al.,

1970). Control theory differs from role and chaos theories because of the unique assumptions on which the latter two models operate. According to Groenendaal, Helsloot, and Scholtens (2013), control theorists base presumptions on the coordination of activities in a centralized manner. The idea is that to prevent chaos, tasks must be preassigned or assigned, and resources must be strategically organized and disbursed. Another presumption hinges on the difference in how multiple functions within the incident command system are managed. For example, both theories include a hierarchy of levels and reporting structure.

A hierarchical structure prevents conflict among responders. Within this reporting structure, a top-tiered incident commander maintains an authority and has control over field operations and first responders, such as search and rescue, firefighters, and building damage assessors. According to Buck et al. (2006) and Drabek (2004), unlike role theory, control theory is efficient within the first few hours of a disaster. Information flow during a large-scale emergency or disaster assures that interoperability among different agencies is smooth and prevents information redundancy. Role theory bases presumptions on information quality and interoperability between emergency services and jurisdictional agencies (Rimstad, Njå, Rake, & Braut, 2014). Information quality could become a huge factor in determining the time and concentration of efforts needed for a positive impact. As Lindell (2013) pointed out, three crucial periods—preimpact, transimpact, and postimpact—link all three theories that test large-scale disasters. For example, responses to large-scale disasters such as earthquakes, tornadoes, or wildfires involve multiple phases. Earthquakes contain aftershocks; wildfires go through phases before destruction. Therefore, a response's impact is dependent on time. Control, role, and chaos theory are also dependent on time to be efficient.

Control, chaos, and role theories share a similar approach to the incident command system within the national framework of disasters. The reason is that all three theories require underlying structures and systems to be in place for stability and logical flow of information to make strategic decisions (Kreps, 1986; Kreps & Bosworth, 1993; Oloruntoba, 2013; Sellnow

et al., 2002; Waugh, 1993). Whereas control theory relies on motivation and the behavior of a person to attain reactions that are expected to drive decision making, chaos and role theories do not treat motivation and human behavior as a determining factor that drives people's reactions in a situation. Kuhn (1970) claimed that the paradigm view influences individuals to mold their subconscious into a reality of the environment and situation they face. Role theory shares a similarity with chaos and control theories concerning clear decision-making processes that account for individuals to be efficient, it does require trust as a dependent. All three theories are influenced by hierarchy (or structure) for efficiency, but they do not agree that a formal integration of processes and systems is necessarily critical to great decision making by individuals.

This research study explored how community emergency volunteers may successfully integrate into predisaster planning. The role of emergency volunteers who are not part of an organized structure is mostly unclear and misunderstood. This lack of clarity could result in conflict and chaos in a disaster. Ostrom (1998) called the conflicts that arise in such situations "social dilemma" (p. 3), which describes how individuals make independent choices in an interdependent situation. Chaos and control theories fit into an equilibrium command and control paradigm shift in which social dilemmas are reduced (from a theoretical perspective) by utilizing facial interaction and communication that enhance the outcome of a community disaster preparedness effort. This research examined the way CERTs are integrated into emergency management systems, that is, into local jurisdictional planning and any factor that explain variations of the integration that occurs (Carr & Jensen, 2015). Integration in this context is a core part of a formal system with clear roles and responsibilities in coordination, planning, and leadership.

CERT research contributes to an overall understanding of CERT benefits at many levels. Effective coordination and collaboration among supportive functions within the emergency management system provide a CERT with the confidence it needs to encourage citizen engagement and participation that could yield a favorable outcome in a disaster. By exploring the levels of integration into

local emergency management systems in the different regions in California and discussing the value CERT volunteers bring to disaster preparedness, the outcomes of this study could advance emergency management at the local level. Very little effort has been made to identify integration approaches regarding volunteer organizations and coordination with role clarity and the importance such role clarity has on the success of CERT within the different jurisdiction. The literature showed how both internal and external collaboration with multiple agencies enhanced team chemistry and success in times of disaster. The literature also pointed out some of the limitations to successful integration, including layers of challenges to address, resources, volunteer coordination and management, level of motivation from volunteers, and requisite knowledge (van Gorp, 2014). A goal of this study was to ascertain different levels of CERT planning that might explain successful coordination and integration. Therefore, the contribution of the study to the field of public safety and emergency management was to understand the structural approach specifically, role (identity) theory was relevant to that goal (L. Fernandez et al., 2006; Kreps & Bosworth, 1993; Studer & von Schnurbein, 2013).

A structural approach to disaster preparedness with volunteers at the center of coordination and planning needs to be understood. Basic CERT preparedness could increase role identity among CERT members. Professional or practitioner responders are capable of handling both routine and disaster events due to their vast experience and advanced training and practices (Carr & Jensen, 2015; Flint & Brennan, 2006; Flint & Stevenson, 2010). The same is untrue for CERT volunteers, who only receive basic training and do not get opportunities to practice (Ochiai, 2014). The structure followed in emergency management is the Incident Command System within the National Response Framework (U.S. Department of Homeland Security, 2008). This response framework contains little or no formal structure for volunteers. CERT is yet to earn the recognition the American Red Cross has. Local emergency management systems function and interact with organizations such as the American Red Cross and other multilevel agencies, but nontraditional organizations such as CERTs have yet to align functionally within an Incident Command System, so

they can be appropriately managed and coordinated in disasters. This exclusion from the system makes it especially difficult to introduce new approaches to the local emergency management systems that potentially create a decision-making issue for professional responders who might have to deal with citizen volunteers (Allen et al., 2014). Integrating CERT members into the emergency management system is not a formal practice performed by multiple agencies. Findings from this study may advance the cultural paradigm shift in communities that struggle to integrate CERTs into disaster preparedness jurisdictional planning.

Synthesis of the Research Findings

The results of the literature review pointed to a range of research findings that supported the current research. Many researchers acknowledged a gap in the literature of disaster studies; inquiry into community volunteers is uneven in its geographical representation (Barraket et al., 2013; Barsky et al., 2007; Carr & Jensen, 2015; FEMA, 2017; Flint & Brennan, 2006; Flint & Stevenson, 2010; Hamerton et al., 2015; Ludwig et al., 2015; Meyer et al., 2016; Ochiai, 2014; Perry, 2004; Rivera et al., 2015; Rodriguez et al., 2006; Scanlon et al., 2014; See, 2013; D. M. Simpson, 2001, 2002; Twigg & Mosel, 2017; van Gorp, 2014; Whittaker et al., 2015). Results determined that emergent volunteers shared the same aspirations as organized volunteer organizations such as CERTs. However, studies also showed that emergent disasters do not preclude predisaster planning and technical knowledge in the form of organized training (Twigg & Mosel, 2017).

The review of the literature indicated several aspects of community volunteer framework that highlighted the significance of effective coordination of emergent volunteerism in disaster responses but failed to note how the unique experiences of emergency managers or specifically CERT coordinators influenced the volunteer teams they oversee. More empirical and comparative research could illuminate organized emergent volunteerism in the community and advance the understanding of the phenomenon from the CERT coordinator's perspective and demonstrate how different observers examine the world of CERT. More empirical and comparative qualitative phenomenological research into predisaster

integration and coordination of organized volunteerism is also needed. Qualitative research methods can help access an understanding of the distinct experiences of role enactment and coordination of volunteers from an emergency manager's point of view. To observe and report on different views is to be committed to understanding a social phenomenon through a different lens and standpoint (Rubin & Rubin, 2005).

Critique of Previous Research Methods

Comparative research studies that discuss and examine CERT volunteers' integration into predisaster planning are limited in the literature. However, numerous qualitative studies on volunteer coordination and motivation exist in which researchers attempted to draw relationships from the different sets of an intraparadigm shift. Their discoveries and assumptions shaped their views on ascribing an explanation for a choice of research method that is central to objective or subjective social reality and other opposing views. For example, De Soir et al. (2012) explored the experiences of fire and emergency medical services personnel during and immediately after a technological event using a phenomenological approach. The researchers analyzed responses to open-ended questions to assess aspects of participants' emotional and cognitive reactions that were viewed as shocking. De Soir et al. used a large sample size of 180 emergency medical services personnel and collected data through questionnaires. The usefulness of generalization is recognized for this study. Grounded theory was inappropriate for the research, as well as using questionnaires as an instrument.

Other research studies employed qualitative and quantitative research methods. The literature review pointed to a range of research that utilized qualitative phenomenological methodology and design for disaster research. Several gaps persist in disaster research that provides an understanding the experience of CERT coordinators. For qualitative research methods, Patton (2015) noted that the importance of compatibility in research studies as no single research method could be deemed superior without first looking into an operative paradigm affects any assumption researcher form. Therefore, Moustakas (1994) supported different opinions on research to enhance theories and themes that further scientific knowledge

based on the human experience in phenomenology qualitative research. Specifically, Standing et al. (2017) supported the notion that a phenomenological framework distinguishes the internal from the external experience and background to elicit the different opinion. He further noted that Husserl initiated this type of framework and inspired the system that seeks to describe and characterize the world of phenomena that is presented to researchers (Giorgi, 2010). In public safety, research that seeks to understand a phenomenon being researched challenges the already preconceived notion that impacts the research through the development of themes in which bracketing is subjective to an interpretation by a researcher, and the past knowledge any researcher has that might result in scientific implications for the study (Chan et al., 2013).

This study included the qualitative phenomenological research method of inquiry to explore the experience of CERT coordinators who coordinate and manage CERT volunteer activities to understand the phenomenon of predisaster integration. For this study, I attempted to block out or put aside any presuppositions or formed belief about the lived experiences of CERT coordinators and to make observations openly in a natural world in which behaviors and habits are unperturbed (Moustakas, 1994). *Bracketing*, a technique that involves putting aside beliefs about the phenomenon or knowledge about the subject being investigated and allows the lived experiences of the participant to emerge, assisted in this process. For CERT coordinators, individual experiences and the researcher's bracketing sensitivity to the phenomenon being researched challenges the preconceived notion. Such notions impacted the research through the development of the themes in which bracketing is subjective to an interpretation by a researcher, and the past knowledge that a researcher has that might result in scientific implications for the study (Sorsa et al., 2015).

Different research methods are applicable in the social sciences, specifically in public safety; competing paradigms exist so that research studies utilize frameworks or models that are presented as positivist (empiricist) or constructivist (phenomenological). The idea is based on the premise that beliefs and opinions are shaped differently so understanding the human

world begins with a differing inquiry. According to Patton (2015), “rocks don’t think and feel” (p. 121); therefore, it is up to researchers to invoke the social or human nature of the subject being studied. Also, as Moustakas (1994) noted, empirical phenomenology determines the meaning of the experience lived by the people being studied. Specifically, this study centered on a research model that promotes an interpretive science (phenomenological) approach in which social constructions are created, a hypothesis is generated, and in which there is a cause and need to simplify things (Patton, 2015). Further, Amaratunga et al. (2002) noted that phenomenological qualitative methods induce interpretation to human experiences in a holistic approach. The premise was that a prolonged interaction with a life situation involves real people, objects, and behavior that then drive the data in a qualitative study. Thus, the best strategy for discovering new ideas, validating information, supplementing existing knowledge, and exploring and developing a new area of research is a qualitative method (Amaratunga et al., 2002).

It is important to note that the overall goal of this study was not to generalize the experiences of CERT coordinators alone by exploring the contexts but to emphasize the lived experience of CERT coordinators based on perceptions, preconceived notions, and judgments, and show how easy it is to link the research study by connecting the social constructs to the outside environment. For this study, a phenomenological research design was appropriate because it supported a focus on the lived experience of CERT coordinators who prepare volunteers through training to explore the phenomenon of predisaster integration. Also, it opened a window to a holistic view of situations with historical events (Ospina, 2004). Further, a qualitative research design allowed for data collection through open-ended questions to participants. Through the qualitative phenomenological interviews, participant responses revealed personal experiences to portray lived experiences in the big picture, allowing for the use of direct participant quotes in the analysis phase of the study.

Summary

Chapter 2 provided an extensive review of the literature by detailing several peer-reviewed research studies. Background information on emergent and

spontaneous volunteering preceded an examination of how CERT volunteers differ from emergent and spontaneous volunteers and how the formal structure of CERT volunteering distinguishes it from conventional volunteering. Specifically, this chapter reviewed disaster research studies and the history of CERT and how CERT has evolved throughout the United States. The literature review supported phenomenological qualitative research design in disaster research. In the same vein, the literature examined lessons learned from disasters and how communities play vital roles in disaster resilience. Analysis of studies on trust and legitimacy addressed the gap in CERT programs and the significance of acceptance from professional emergency responders to CERT volunteers. The final section of the literature discussed the incident command system and how it links chaos, control, and role theories and its implication to volunteer coordination and management in local jurisdictional planning for disaster preparedness. Also, a critique of the research methodologies is presented in Chapter 3. The limited or lack of previous research on CERT as well as the absence of the theoretical framework for disaster volunteer coordination and management establishes the need for the following study. Chapter 3 will explore how the application of phenomenological qualitative research methodology would enhance the understanding of the lived experiences of CERT coordinators who manage and coordinate CERT activities and programs. This chapter will focus on the approaches used for research design including data collection procedures and analysis as well as ethical considerations.

METHODOLOGY

Purpose of the Study

The purpose of this qualitative phenomenological study was to ascertain the extent to which community emergency response teams (CERTs) can align with professional responders and multiple agencies within jurisdictional emergency management structure in a disaster response effort and to examine the factors that might explain any variation observed. One of the lessons learned from past disasters in the United States is that government response to disasters may be slow. Some communities have waited much longer than others to receive federal or state assistance in a disaster

(Choate, 2011; Ludwig et al., 2015; van Gorp, 2014; Yamamura, 2013). Most communities now understand that the local or federal government's ability to respond with aid quickly after a disaster may be limited. According to Pinkowski (2008), during Hurricane Katrina in 2005, communication from the then-mayor of Gretna, Louisiana, included a warning to citizens to fend for themselves, suggesting that citizens should not expect any help from the government because mobilizing resources was delayed after the storm. During Hurricane Isabel in Virginia, citizen volunteers distributed fact sheets and updates on the storm to citizens after the power had been out for more than a week. Also, local authorities accepted help from citizen volunteers to distribute food and water to affected communities (Franke & Simpson, 2004).

The damage from the Loma Prieta earthquake near Santa Cruz, California, in 1989 and the Northridge earthquake in Los Angeles in 1994 led to several changes in emergency response and mutual aid planning. According to Posegga and Fischbach (2016), planning for disasters is only one aspect of preparedness, and developing a strategy for long-term recovery planning, including training and communication updates with other agencies, is critical. Specifically, after the Loma Prieta earthquake, the San Francisco Bay area community recognized the urgent need for community training. Researchers identified critical areas of community preparedness including pre-impact planning and training on incident management in which the community plays a role (Jensen, 2016; Y. Zhang, Lindell, & Prater, 2009).

As a result, in 1985, the City of Los Angeles funded CERT training for citizens to its disaster planning. To date, the Los Angeles Fire Department has recorded a huge success in the program. As of 2012, more than 20,000 citizens have benefited from this training, and the Los Angeles CERT program is the most successful in California (Chandra et al., 2013; Lichterman, 2000). In the same vein, since the Loma Prieta earthquake, the level of consciousness for community preparedness has increased greatly. As of 2013, the San Francisco Neighborhood Emergency Response Teams, an equivalent of CERT, has trained thousands of people. Furthermore, the number of CERT

programs in different cities across the San Francisco Bay area has greatly increased (Ochiai, 2014).

Because the significant growth in CERT programs in California may be linked to the likelihood of a major earthquake, this study explored how these CERT programs work with experienced emergency responders and evaluated how the teams align incident response objectives in a disaster. An additional purpose of this study was to gather data that emergency managers may provide to local government. Another purpose of this study was to collect data that may help local emergency managers and CERT coordinators enhance coordination and collaboration between CERT teams and other local surrounding groups during chaotic future disasters. An additional purpose was to inform students in the field of public safety and emergency management (and others with the capacity to shape public policy on emergency management) about what steps might be taken to bring about effective community collaboration and jurisdictional coordination for emergency response planning. The study sought to clarify factors that could enable CERT coordinators and local emergency managers to integrate their teams into jurisdictional planning and local emergency management systems. Finally, the phenomenon of CERT coordinators' lived experiences could inspire policy changes on community preplanning efforts associated with recommendations from successfully integrated teams.

Research Questions

To advance scientific knowledge and enhance theoretical understanding, in semi-structured in-depth interviews, participants shared opinions based on their lived experiences to allow for an exploration of three research questions:

RQ1. How does the integration of community emergency response teams in jurisdictional planning impact effective coordination in emergency response?

RQ2. What have been the experiences with coordinating, planning, and integrating community emergency response teams into the local emergency management system?

RQ3. What is needed to effectively align community emergency response team objectives with local jurisdictional objectives to respond to and manage emergent disaster?

Research Design

This study was a replication of Carr and Jensen's (2015) study, which used purposive sampling to select local CERT coordinators from the Federal Emergency Management Agency VII region (prone to hurricane, tornado, and earthquake disasters). However, for this study, the sample was limited to CERT coordinators from an area in the western United States, which is prone to floods and earthquakes. Phenomenological qualitative research methods involve interpretation of human experiences in a holistic approach and hence were appropriate for this study. According to Englander (2016), phenomenological qualitative research design captures human interaction with real people and objects. This interaction helps researchers to understand human behaviors (Patton, 2015). Researchers achieve a better understanding of the lived experience of the participants by collecting data through qualitative storytelling and interpreting the human experience through conscious knowledge shared by the participants (Moustakas, 1994).

This study focused on gaining an understanding of the phenomenon of how CERT coordinators coordinate and manage CERT integration and volunteer activities before disasters. Moustakas's (1994) rigid data collection and data analysis steps, epoché, reduction, imaginative variation, and synthesis, supported the goals of this study.

Target Population and Sample

The participants purposively sampled for this study possessed a vast amount of knowledge in coordinating and managing CERT volunteers. A select group is more likely than a large population to reflect the main purpose of the study, the research context, and the phenomenon being studied (Clayton, 2016). This phenomenological study allowed the CERT coordinators recruited for the study to express their subjective experiences in their different areas, and these data informed the study of any unique lived experiences (Sutton & Austin, 2015).

Population

The target population was CERT coordinators from an area in the western United States; these individuals were affiliated with a fire department and managed CERT volunteers. These participants were willing to

share details of their experiences of their CERT program concerning management and coordination.

Sample

According to O. C. Robinson (2014), a minimum of 10 participants is appropriate for phenomenological qualitative study, and 10 people participated in this study. This limited size enabled collection of in-depth answers to the research questions from each participant. Three inclusion criteria were appropriate for this study. To be selected as a participant for this study, participants needed to possess a minimum of three years of emergency management experience within a fire department, with at least two years' service at the current location. Another criterion was that participants had to have access to the Skype or FaceTime communication tool. Third, participants must have been actively involved in their CERT program and must have facilitated training periodically. The assumption was that the longer a CERT program was active, the more cohesive and valuable the program would have been determined to be for the locality (Carr & Jensen, 2015; Jensen et al., 2014).

For the following study, participants' educational background, gender, age, and race did not determine whether they would be selected for participation. However, it was important to establish exclusion criteria for the study. As a result, participants who did not hold a managerial emergency management role and coordinate activities within a fire department were not invited to participate in this study, and individuals who managed CERT programs with less than 20 active volunteers were excluded from the study.

Procedures

This section describes the step-by-step procedures used to achieve the methodological goals of this study from selection and protection of participants to data collection and analysis.

Participant Selection

Recruitment of potential participants took place through e-mail invitation to participants who met the inclusion criteria established for this study. After identifying 25 potential participants from the Citizen Corps Council website, all 25 potential participants received an e-mail stating the background of the study,

academic organization conducting the study, method of obtaining the participants' contact information, and my contact information. Of all 25 potential participants contacted to join this study, a total of 12 potential participants responded to be included in the study; however, 13 opted out of the study. Finally, only 10 participants were chosen to participate in the study because one participant transitioned from being a CERT coordinator a few days before the interview, hence, was removed from the list of participants. The other participant failed to show up for the scheduled interview and never responded to several follow-up requests for another interview. Once all 10 participants confirmed their willingness to participate in the study, they provided informed consent forms validating their desire to participate in the study before scheduling a telephone interview.

Protection of Participants

Participants were notified that participating in the study was voluntary and that at any time during the study they could refuse to participate in the study. The confidentiality of the participants was maintained during the data analysis through coding, in which personal information and identifiers included in the collected material were removed.

The computer used to store the data collected and analyzed was the personal property of the researcher with password protection for additional security. No participant's personal or organizational information or identifier was included in the published dissertation. All collected materials (in written form or voice recordings) were saved in an external flash drive, wrapped in a sealed bag and put away in a locked cabinet that is only accessible by the researcher. The researcher prepared the transcriptions of the interviews.

Data Collection

Participation in this study was via Skype or FaceTime communication tool to gather data through the semistructured interview process. A physical meeting with the participant to conduct the interview was not necessary for this study. Before each interview, the researcher collected consent forms from the participants. The researcher interviewed 10 participants who met the established inclusion criteria. The participants provided useful information that

helped the researcher explore the phenomenon of managing and coordinating community emergency response teams (CERTs).

First, the researcher helped participants settle into the interview process comfortably by asking how their day had been. The next step was making sure that participants understood the research topic being explored by reviewing the background of the research study to the participants. Also, the researcher reiterated the participant confidentiality and limits to gain trust before proceeding with the interview process. The researcher sought permission from participants to record the interview and only proceeded with the interview after they granted permission. Participants answered 11 guiding interview questions, and before the conclusion of the interview, the researcher gave each participant an opportunity to clarify any information provided during the interview or ask additional questions. Participants were then thanked for participating in the study and informed that the researcher might reach out to them as needed. The researcher also provided contact details to participants so participants could feel free to reach out with questions or additional information.

Data Analysis

This study was a replication of Carr and Jensen's (2015) study. Therefore, some aspects of their data analysis method applied in this study. This study utilized Carr and Jensen's coding and group concepts approach and Moustakas's (1994) phenomenological data analysis approach: bracketing or epoché, phenomenological reduction, imaginative variation, and synthesis. Thomas (2006) opined that for qualitative studies, a general inductive approach allows the researcher to develop objectives before the interviews and evaluate the objectives against the outcome of the interview to yield findings that are relevant to the study.

Coding and epoché comprised the first step of the data analysis. Coding of the raw data must occur as the first step of the analytical data method (Rubin & Rubin, 2005). The coding process consists of a systematic and rigorous reading of the transcript and journal notes to develop important themes. Developing themes is the end goal. Moustakas's (1994) epoché or bracketing enables researchers to set aside any preconceived

notion or biases, knowledge, or assumptions about the phenomenon being studied and view the experience from the participants' standpoint.

The second step of the data analysis was group concepts and phenomenological reduction. The goal of the dissertation was to comprehend the phenomenon being studied through the eyes of the experienter, the participant. This process entailed capturing the participants' words and noting their use of the repetitive information they deemed too important not to stress in the interview. According to Padilla-Diaz (2015), relevant information and knowledge derive from the textual words or descriptive words gathered from the experience of the participants. Gathering the textual words was a very important step in the data analysis process because it informed the organization of thoughts and ideas that followed coding of the data. Specifically, the focus was on organized thoughts and ideas around concepts in clusters that were relevant to research questions (Goldberg & Allen, 2015). The phenomenological reduction step of the data analysis involved the use of diagrams to link emerging themes to categories as more raw data were coded. As Thomas (2006) noted, coding the data in a pattern makes it easier to link themes and categories, so they fit intuitively or logically together.

At this point, a description of CERT coordination and management was important. Adopting Carr and Jensen's (2015) initial and focused coding technique allowed for the contrasting and clarifying of themes and concepts identified throughout the various interviews. In this study, initial coding served to summarize the content from the raw data, and focused coding supported expansion on the concepts and themes. Coding of the transcript in keeping with Rubin and Rubin's (2005) guidance involved a search of the raw data for pertinent information that supported the formation of categories. Items in the categories shared similarities in meaning and were grouped into categories so they fit logically within the objective of the study.

Following completion of epoché, coding, and phenomenological reduction, the third step of the data analysis process was imaginative variation. The goal of imaginative variation, according to Padilla-Diaz (2015), is to gain a rich understanding of the

phenomenon being studied by focusing on the different experiences shared by the participants. A specific focus on a cluster of textual description by using imagination to compare the different views expressed by the participants because one view is incomplete to search for the different meanings of the lived experiences of the participants. The cluster of textual description also means harmonizing the texts to develop categories. Categories that share similarities emerge into themes, and the themes enhance understanding of the root of the lived experiences of the participants and provide access to the true meanings of the experience (Patton, 2015).

Finally, synthesis of the data consists of bringing together all the textual themes and categories to gain a deeper understanding of the phenomenon being studied. The aim of synthesis is to make sense of the clustered themes and textual descriptions that were categorized in a structure. Gaining a deeper understanding of the participants' experiences with CERT management and coordination meant pairing different parts of their viewpoints and comparing them with the objectives developed at the initial stage of the analysis. Making this comparison assured that any pattern drawn from the themes and categories during phenomenological reduction made logical sense (Moustakas, 1994; Pietkiewicz & Smith, 2014).

Instruments

The Role of the Researcher

In phenomenological qualitative research, the researcher serves as the instrument of data collection (Englander, 2016). Therefore, one of the main responsibilities was to block any potential biases or preconceived notions about CERT that could limit the understanding of the lived experiences of the participants. The scientific process of bracketing assured any presuppositions or assumptions about CERT challenges or the phenomenon being investigated were put on hold during the interviews. According to Tufford and Newman (2012), the lack of bracketing in qualitative research could result in speculation of lived experiences of the participants being studied. As Chan et al. (2013) noted, biases are inevitable, and knowing they exist and finding ways to limit them was critical for this research study. The researcher must acknowledge that the experience of being a member of a CERT organization was a potential for bias. Therefore, epoché or bracketing was

used to remove any influence from these experiences from the research process. Also, the researcher lives in the area in California from which the sampled populations for this study originated. It was therefore essential to tell the stories of the participants honestly and objectively without attempting to exaggerate any claims about this population in an attempt to paint a better picture of reality.

Guiding Interview Questions

Carr and Jensen’s (2015) study was the model for this study. Therefore, some of the questions, specifically Interview Questions 2, 3, 4, 8, and 9 were replicated verbatim from Carr and Jensen (2015). The researcher obtained written permission from Carr and Jensen to use Interview Questions 2, 3, 4, 8, and 9 for the following study. Using the chaos, control and structural (role) theories as a guide, Questions 1, 5, 6, 7 and 10 were developed to answer the research questions. Questions 1, 5, 6, 7, and 10 were then deemed appropriate for this study after they were field tested by two experienced CERT coordinators who were not participants in this study. In addition, Questions 7, 9, and 10 were modified after field testing, according to the feedback from the two CERT coordinators. The additional questions aimed to enhance the understanding of the theories (i.e., chaos, control, and role) chosen for this study. The following interview questions guided this study:

1. How are volunteers recruited at your organization? (Guide participant as required to explain specific methods and provide additional detail on what works and what does not work.)
2. How would you describe your CERT program? Tell me about the challenges and successes.
3. As a CERT coordinator, what have been your experiences with coordinating, planning and integrating CERT into the local emergency management system?
4. What explains the history of your team? Mobilizing CERT members?

5. Describe the resources your facility supports CERT with, specifically equipment that is available for CERT to use when activated.
6. Tell me about your outreach strategy and training structure.
7. What are the experiences of CERT working with multiagency command systems? Incident Command System or United Command System?
8. Describe the team’s roles and responsibilities within [jurisdiction name].
9. Describe the team’s interactions with the surrounding groups and the local management system—for instance, the fire department, police department, and emergency medical services.
10. Describe CERT activation compare to historical activations.
11. Describe who (or what organization) is included in your annual drills and what CERT role is if required.

The modification of interview questions in this study following field testing was necessary for understanding the CERT phenomenon of interest. Table 1 displays the alignment between research questions and interview questions.

Ethical Considerations

For this study, Capella University Institutional Review Board granted permission and approval to conduct the research. To protect the confidentiality of the participants, it was important that every step necessary was taken to reduce to a minimum any risk for harm to the participants who had given voluntary consent to participate in the study. Participants were requested to acknowledge their voluntary participation in the study and were notified that participation in the study was voluntary and that at any given point in time during the study, they had the right to stop the interview and refuse participation if they felt uncomfortable or lost interest to continue in the study.

Table 1
Alignment of Research Questions and Interview Questions

Research Questions	Interview Questions
1. How does the integration of community emergency response teams in jurisdictional planning	9. Describe the team’s interactions with the surrounding groups and the local management system—for instance, the fire department, police department, and emergency medical services.

<p>impact effective coordination in emergency response?</p> <p>2. What have been the experiences with coordinating, planning and integrating CERT into the local emergency management system?</p> <p>3. What is needed to effectively align CERT objectives with local jurisdictional objectives to respond to and manage emergent disaster?</p>	<p>10. Describe CERT activation compare to historical activations.</p> <p>11. Describe who (or what organization) is included in your annual drills and what CERT role is if required.</p> <p>1. How are volunteers recruited at your organization? (Guide participant as required to explain specific methods and provide additional detail on what works and what does not work.)</p> <p>2. How would you describe your CERT program? Tell me about the challenges and successes.</p> <p>3. As a CERT coordinator, what have been your experiences with coordinating, planning and integrating CERT into the local emergency management system?</p> <p>4. What explains the history of your team? Mobilizing CERT members?</p> <p>5. Describe the resources your facility supports CERT with, specifically equipment that is available for CERT to use when activated.</p> <p>6. Tell me about your outreach strategy and training structure.</p> <p>7. What are the experiences of CERT working with multiagency command systems? Incident Command System or United Command System?</p> <p>8. Describe the team's roles and responsibilities within [jurisdiction name]</p>
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Before the interview, an overview of the research study, participant confidentiality and limits therein, risks and a signature page (that allowed the participants to give their permission to be included in the study) were provided to participants as a way to maintain ethical procedures and establish a trusting relationship. Participants were informed that to maintain privacy, personal information or organizational affiliations would not be disclosed in the study. More importantly, participants were assured that the collected materials would be stored wrapped in a sealed bag and put away in a locked cabinet until the data analysis commenced and then destroyed by a paper shredding machine after seven years' storage, as required by Capella University. Participants indicated their understanding and willingness to participate by signing the consent forms, which will also be stored for seven years following the end of the study.

Summary

The purpose of this phenomenological qualitative research study was to delve into disaster research in CERT to attain a better understanding of the lived experiences of CERT coordinators who manage and coordinate CERT activities and programs. This chapter focused on the approaches used for research design including data collection procedures and analysis as well as ethical considerations. According to Patton (2015), "rocks don't think and feel" (p. 121);

therefore, it is up to researchers to invoke the social or human nature of the subject they seek to study.

Due to limited research theories in emergency management, Moustakas's (1994) phenomenology qualitative guidelines were appropriate for this study. Specifically, qualitative phenomenology on research design restricts the scope and universe in which participants are sampled (Luborsky & Rubinstein, 2011). This chapter explained that purposive sampling improves the validity of qualitative research (Leung, 2015); therefore, it was the method chosen to recruit participants with knowledge about coordinating and managing CERT volunteers. Furthermore, a small select group, rather than a large population, is likely to reflect the research context and the phenomenon under study (Clayton, 2016). This exploration study gave CERT coordinators who met the inclusion criteria an opportunity to express their subjective experiences in their different views.

As the researcher serves as the data collection instrument in this research design, participants answered guiding interview questions as a way of establishing trust and easing the interview process. It was very important to maintain established ethical considerations for this study as the goal of the dissertation was to reduce any potential threats or risks to the participants by not disclosing any identifying

information or the affiliated organization in the study. Chapter 4 will include detailed findings from the data collected and analyzed.

PRESENTATION OF THE DATA

Introduction: The Study and the Researcher

For this study, phenomenology was appropriate to explore the lived experiences of the participants. The exploration of the phenomenon of managing and coordinating community emergency response teams (CERTs) starts and ends with the lived experiences of CERTs coordinators, according to Yüksel and Yıldırım (2015). The purpose of this qualitative phenomenological study was to explore the extent to which CERTs can align with professional responders and multi-agencies within jurisdictional emergency management structure in disaster response efforts and to identify the factors that might explain any variation in that alignment. Phenomenology supported the search for a better understanding of the lived experiences of CERT coordinators who manage and coordinate CERT activities and programs.

The researcher had a genuine interest in exploring how CERT coordinators manage and coordinate CERT activities and programs; therefore, by using the qualitative methodology of Moustakas's (1994) phenomenology, the researcher was able to gather data that would illuminate the informal and formal structures of disaster management. The researcher's professional experience in conducting in-depth interviews improved the ability to understand and apply Moustakas's (1994) phenomenology qualitative interview design for this study. The researcher used bracketing to put aside any personal beliefs or biases as a member of CERT during my FaceTime or Skype interviews with participants as well as during the data collection and data analysis processes.

Description of the Sample

The 10 participants chosen for this study were all individuals who trained, planned, coordinated, and managed community or citizen volunteers before a disaster and had affiliations with or employment experience at a fire department. The selection process did not include consideration of participants' educational background, gender, age, or race. In the same vein, it was important to establish exclusion

criteria for the study. Participants who did not have contact with an active CERT program that allowed them to engage with community volunteers during training and after training could not participate in the study.

Research Methodology Applied to the Data Analysis

In this study, Moustakas's (1994) phenomenological approach supported analysis of the data. Verbatim expressions from the participants provided illustrations of the phenomenon. Phenomenological methodology involves delving into the words of the participants to reveal the "essence of things" (Katsirikou & Lin, 2017, p. 469) and enhance the meaning of the human experience behind the words. The process of focusing on the literal words of the participants aided in decoding the meanings of the stories the participants shared. To maintain a degree of objectivity, I had to bracket out any preconceived notions or presumptions about CERTs to allow the narratives of the participants to yield meaningful conclusions about the phenomenon.

According to A. V. Fernandez (2017), maintaining neutrality in the data analysis process is achieved through bracketing. The researcher must focus on the words of the participants from the transcription, through a process of horizontalization that involves grouping concepts and words that express the lived experiences of the participants (Moustakas, 1994). A phenomenological reduction of the grouped words yields meaningful units. These units can then be extracted to create themes that describe the essence of the coordinating and managing CERTs to better understand the phenomenon being studied. Combining the participants' textual descriptions with the grouped concepts and themes that emerged from the data analysis further revealed the essences of participants' lived experiences.

Presentation of Data and Results of the Analysis

Six themes emerged from the analyses to represent the phenomenon being studied and describe lived experiences of CERT coordinators: (a) catch-and-release dilemma, (b) risk and liability, (c) Program ambiguity, (d) structural role ambiguity, (e) CERT credibility, and (f) lack of resources. The data analysis for this study helped provide a rich understanding of the phenomenon being studied by focusing on the

different experiences shared by the participants. A specific focus on a cluster of textual description, combined with the use of imagination, allowed comparison of the different views expressed by the participants. Including only one view would be insufficient to search for the different meanings of the lived experiences of the participants.

In order to link the objective of the research questions to the themes, this section presents the data from the lived experiences of the participant in coordinating, managing, and integrating CERT volunteers into local

emergency management systems. The participants provided information in the interviews that was used to formulate textural-structural aggregate. Emerging themes helped provide an overall description of the CERT coordinators' essence. The next few sections will provide insight into the lived experiences through verbatim words of the participants and explore the themes that emerged during the data analysis. Table 2 displays the themes and subthemes and identifies the participants who mentioned each one.

Table 2
Textural-Structural Aggregate of Themes and Subthemes

Themes and Subthemes	Participant (by ID number)									
	001	002	003	004	005	006	007	008	009	010
Catch-and-Release Dilemma	√	√	√	√	√	√	√	√	√	√
Perishable skills	√			√	√	√			√	√
Risk and Liability	√	√	√	√	√	√	√	√	√	√
Disaster Service Workers	√	√	√	√	√	√	√	√	√	√
Program Ambiguity	√	√	√	√	√	√	√	√	√	√
Misuse of CERT volunteers	√				√	√	√		√	√
Documentation (EOP)			√		√			√		√
Structural Role Ambiguity	√	√	√	√	√	√	√	√	√	√
External Stakeholders	√		√			√		√	√	
Communications		√		√	√			√		√
CERT Credibility	√	√	√	√	√	√	√	√	√	√
Branding		√		√	√		√		√	
Skillset	√		√	√		√	√	√		
Lack of Resources	√	√	√	√	√	√	√	√	√	√
Staffing		√		√		√		√	√	√
Funding	√		√		√		√		√	
Technology	√	√	√	√	√	√	√	√	√	√

Catch-and-Release Dilemma

In their 2017 study, Sims and Danylchuk explained the catch-and-release concept by comparing the process of recruiting volunteers to recreational fishing, wherein the desired outcome for fish survival is a return to the water from which they were captured and handled. Similarly, CERT managers hoped to retain volunteers for additional advanced training upon successful completion of the initial basic training. CERT coordinators plan and organize training classes throughout the year for citizens. The training uses the

FEMA curriculum that covers topics such as basic first responder skills, fire safety, disaster medical services, team organization, light search and rescue, hazmat, and so on. One responsibility of the CERT coordinator is to obtain the FEMA curriculum and host classes so the community can register and attend.

Responses from the participants in this study illustrated the lived experiences of CERT coordinators in dealing with coordinating, planning, and organizing training despite low student retention that threatened the CERT program's objective (Ochiai, 2014).

Participants 001, 003 and 008, shed light on the problems associated with the catch-and-release approach. P001 stated,

When we get these citizens to attend our initial awareness training, we still get to work hard to possibly recruit them to become CERT volunteers. The challenge is some of that is really predicated on the fact that these people just want the training for themselves and their family. It is hard to know whether or not the training that we provide these people are going to manifest to them returning as CERT volunteers or if it something that is one and done.

P003 shared,

Recruitment strategy starts at the community where we bait potential students to commit to just one hour of disaster preparedness presentation at events or social gatherings. Once we get their attention with that, we invite them back for the full 24-hours training. That way, we identify earlier on who might have interest in possibly exceeding the basic course.

P008 stated,

One of the challenges in recruiting mainly is the availability of those who attended the basic course. They are not able to return for additional training because work full-time and have other responsibilities in their daily lives. While the original FEMA concept is catch and release, when you are trying to have a managed program to treat as an additional resource at the elite level, the ability to make this happen fluctuates depending on people's availability. Notwithstanding, the catch-and-release concept works for people with family obligations who do not seek additional community responsibility.

Other participants discussed how fewer classes and often rigid schedules affect potential volunteers' commitment to become CERT trained. P004 shared, Unfortunately, what I see with my classes is that if I do a class of at least 40 people, I may retain five individuals from the class who are actively engaged and wanting to return after the initial basic disaster preparedness course for more training.

P002, P005, P009 described the same challenges in promoting CERT training to potential students. P002 stated,

I don't feel like the joy of getting early interests from potential students through the outreach process is something to be thrilled about. This is because first of all, they reserve a spot on the sign-up sheet and end up not showing up. Those who manage to show up gets discouraged with the training schedule that is not always the most flexible. I have had a few students who completed the initial training in one year because of that is what their schedule could allow.

P005 said,

We had to increase our class size from 20 to 30 and most recently, 40 because we reduced the initial training to three hours so as to get people more interested. We get people to actually return based on the short class time.

P009 described the struggles in detail:

I mean I feel like I wear the hat of a salesman that is trying hard to convince the buyer. I literally make my pitch to potential students that I will come to you and your home or your garage or your backyard garden to set up. I make them aware that I have a mobile training platform and can deliver training from the truck. Once in a home owner association meeting, I delivered the basic CERT training to a party of 20, [and] I got at least five people who agreed to return for advanced training.

The catch-and-release theme is unique in that the interview question that generated the above responses from participants sought to know only how volunteers recruited for their respective organizations. The question was intended to illicit responses about methods and techniques that worked for the organizations. Overall, participants did not hesitate to describe how much effort it takes to get potential students to sit through basic training and then return for advanced courses that would certify them to be CERT volunteers. Participants also alluded to the need to always review the training curriculum to find ways to personalize the training presentation to make it as simple and relatable as possible. The subthemes that emerged from catch-and-release dilemma were challenging CERT retention and perishable skills.

Training and comprehension take time and dedication. As Coombs and Holladay (2011) pointed out, people gain knowledge and experience through training;

however, if the training is not regular and time elapses, people forget quickly. To maintain knowledge, people have to continuously be tested so that the knowledge gained in training is put to use. Etter and Griffin (2010) gave examples of perishable skillsets: use of firearms, first-aid, CPR, AED, and defense tactics. They also noted that professional expertise must be maintained through repeated tasks or assignments. Firefighters, for example, maintain lifelong commitments to their craft through practice.

For volunteers, the case is different; they are not required—or paid—to keep their skills current. P005 noted, “CERT skills are perishable because the first aid and CPR training that are provided in the basic CERT class require people to come back in and get refreshers,” while P001 stated,

It was always about going a step forward to refresh the skills because if people are not practicing the skills in their daily lives, they could lose it. We see that all the time, people come out here and state that they have taken classes on first aid, fire extinguisher, and CPR, but they have completely forgotten how to carry on with the skills.

P010 noted that “If you don’t continually keep the students engaged with training, then they go away, and then they are no good when they are really needed because they have forgotten half the things they learned.”

According to J. J. Robinson, Maddock and Starbird (2015), most disaster responses have been challenged because people who were supposedly trained to perform basic tasks in the Emergency Operations Center (EOC) have forgotten their training. The time it takes to filter through information at a critical time when one has to either remember how to use a system or remember how to perform a basic task impedes an effective response. J. J. Robinson et al. noted that for emergency management to be successful, skills have to be refreshed, and regular interface among teams has to occur frequently. Also, Westerlind et al. (2014) found that it is not exactly clear how much time students need to be given instruction to test competency for potential high-risk skills in order to validate such skills. Findings indicated acquiring a skill that is adaptable, flexible, and relevant to a

learner on a daily basis makes it difficult for the learner to lose the skill.

Risk and Liability

The second theme that emerged from data analysis was risk and liability. Providing liability coverage for volunteers is a top priority for disaster managers, who are aware volunteers could easily become victims in a disaster response effort. Volunteers might assume the risk of injury because of their instinct to help the community in the aftermath of a disaster (Apsan, 2013; Barsky et al., 2007; Carr & Jensen, 2015; Drabek, 1991; Drabek & McEntire, 2003; Dynes, 2004; H. W. Fischer, 2002; Imperiale & Vanclay, 2016; Pizzo, 2015; Rivera et al., 2015; Scanlon et al., 2014; Stallings & Quarentelli, 1985). In spite of this willingness from volunteers to help their communities following a disaster, no clear path to disaster coverage for volunteers should they become injured in the process has been established. According to Groble and Brudney (2015), the government intends to protect volunteers through the Volunteer Protection Act of 1997 from liability in disasters. At the same time, the government prefers limited risks to lower the cost of insurance for volunteer organizations. Bradley et al. (2017) noted that local governments avoid the use of volunteers altogether because the liability issues remain complicated.

In terms of risk and liability, Participant 006 offered a fresh perspective regarding older volunteers. Participant 006 noted that assigning difficult tasks to the older generation of volunteers has become a “geriatric liability” that municipalities do not want to undertake. Orloff (2011) acknowledged that liability laws are not easy to comprehend, and liability laws are not consistent across the United States. Therefore, most agencies, especially unincorporated agencies like CERTs, struggle to deal with the blurred lines of protection. Participant 010 stated that expecting CERT programs to align with regional or local emergency management systems without fully addressing the worker’s compensation for volunteers is unrealistic because “there is a lot of liability involved if we are dispatching our volunteers to another county without clarifying which county is responsible for injuries that might occur to our volunteers.” Orloff (2011) also argued that the answers to addressing liability issues

are unique for a jurisdiction regardless of the size or affiliation of the volunteer program.

Some risks that volunteers face could be training-related, and a lack of knowledge could yield different outcomes for different CERT programs. A few participants acknowledged that the current FEMA curriculum for initial basic CERT training is meant for awareness and to empower families to better prepare for disasters. Additional training required for specific skillsets need to be established for higher-risk tasks. Participant 001 expressed the opinion that a CERT program that does not follow the mission of FEMA training for community disaster preparedness and then used volunteers for tasks for which they are not adequately trained is putting volunteers at risk because “nowhere in CERT training does it teach high-risk tasks such as traffic control or logistics.” Similarly, Participant 004 stated CERT coordinators should be better poised to understand the bottom-line of their programs because it comes down to training and consistent activities geared to validate competency in skillsets. In the same way, Dong (2015) explained insurance companies are reluctant to cover volunteers because organizations or agencies are often unsuccessful at controlling volunteer behavior that may result in injuries. Participants pointed to the liability and risks CERT programs face as a grey area that continues to mar the progress or success of their programs.

Responses yielded one subtheme related to risk and liability: the special case of disaster service workers. According to the California Governor’s Office of Emergency Services (2018) website, the Disaster Service Worker Volunteer Program (DSWVP) was created following legislation that covered injuries of volunteers who participated in authorized disaster-related activities and pre-approved training. Specifically, that legislation defined a disaster service worker volunteer as

Any person registered as an accredited disaster council or the California Emergency Management Agency, or a state agency granted authority to register disaster service worker volunteers, for the purpose of engaging in disaster service pursuant to the California Emergency Services Act without pay or other consideration. (DSWVP Regulations, 2012, §2570.2)

This legislation described examples of services such as search and rescue missions, wherein approval for other types of activities that further the mission of disaster preparedness through training may be conducted. The scope of the DSWVP exemplifies activities that are under close supervision and direction of an accredited disaster council with clear responsibility and rules of engagement. All participants viewed disaster service workers (DSW) with an anticipation of complications for their programs. However, participants differed in their understanding of the thresholds or criteria for an actual DSW coverage. Some tended to find a way around the DSW for their program. For instance, P001 noted,

When I recruit CERT volunteers from the basic initial class, I take practical steps to oath all participants upon additional training completion because I want to make sure they are DSW’d for any unplanned event for which I will assign them.

P008 expressed a more optimistic view of DSW: Any office of emergency service (OES) worker, no matter what program they are in, becomes a sworn disaster service volunteer to the state of California. Once they complete their training and graduates, we make them apply to our program. Then they are administered DSW, which means they are covered by the state disaster worker insurance.

P003 stated, We don’t oath our volunteers until we are absolutely sure they are committed to the program, especially after a number of additional training is completed. We also use this opportunity to track whether or not they participate in year-round activities because in these activities, we track attendance and validate skillsets. My goal is to walk the fine line between being DSW’d and state worker’s compensation for my volunteers because it gets too complicated, given that we have not been tested with a real disaster lately.

According to Mead (2016), clear and consistent rules stating volunteer and volunteer program responsibilities will be mutually beneficial. Mead noted that legislatures can be ambiguous and may not always drive the needed change because state laws differ and volunteer compliance to state laws may not be attainable. Therefore, it is inherently possible for

program coordinators to determine which activities volunteers can complete, and volunteers can use their judgment to accurately assess risks for activities they are being asked to support.

Participants agreed that data is insufficient regarding volunteer liability coverage due to few disasters or due to program coordinators' control over the activities to which they want to expose volunteers. Participants implied that treating volunteers as workers is still vaguely acceptable to them because according to the definition of disaster service worker volunteer, CERT volunteers must continue to engage in services that are planned and delivered under close supervision of their affiliate agency. In addition, rules of engagement must be very clear. To this end, Mead (2016) argued that federal legislative policies should validate the master-servant test of an organization's control if perceptions of the volunteers' rights and obligations are awkward.

Program Ambiguity

The third theme that emerged was program ambiguity. The duties of the CERT coordinator include incorporating aspects of their affiliated organizations with the volunteer program to meet the objectives of broader disaster preparedness for the community. Disaster preparedness for the community specifically encompasses year-round training and pre-planned activities that serve as training opportunities outside a traditional classroom. Volunteer programs thrive with established frameworks or models that place volunteers in roles where they are fully engaged and connected to attain maximum performance.

Conceptualizing CERT program objectives and understanding how their mission differs from that of a traditional volunteer program is at best unclear from a policy standpoint. First, the mission of FEMA in terms of CERTs is to help communities better prepare for disasters by providing free training. If viewed through the lens of disaster resilience, then an integrated approach includes multiple agencies and management of local protocols. Misconceptions about disaster programs such as CERT are common. As Orloff (2011) noted, CERT is intended for citizens to become self-sufficient through training and skill development so that they are able to supplement local professional responders.

Most people are confused about what CERTs do. According to Orloff (2011), most people see CERT programs as a solution to spontaneous or emergent volunteerism when they are clearly not. The bottom line is that a program should be managed by clear objectives. An outward look into a CERT program does not clearly reveal how volunteers fit into CERT program. According to Chou and Wu (2014), CERT objectives and success depend on a variety of factors, not limited to governmental guidance on local and regional conditions that support mitigation efforts or to training and involvement of experts. Chou and Wu noted that a cohesive program emerges if all factors are established.

Participants' responses showed different levels of program structures, wherein program objectives and expectations were convoluted. As Follman, Cseh, and Brudney (2016) noted, organizational leadership highlights the importance of merging skills, experience, connections, resources, and strategies to attain program objectives. Not all participants viewed the responsibility of clear program objectives as the job of the CERT coordinators. Most of the participants expressed that the intent of CERT programs is to train citizens and prepare them for disasters in their community. Participants 005, 006, 008, and 010 discussed in detail the challenges of FEMA's original intent with CERTs, which was to train the community so that they are self-sufficient during disasters. P005 stated,

The people that attend out first initial training gets overwhelmed by the responsibilities they feel they have to have to support their communities. At a first glance, they like to know what their roles will be for the big earthquake when it does happen. We tend to calm them down by assuring them to focus on their families first during a disaster.

P006 had this to say:

I feel like my role as the CERT coordinator is to find a way to always use my CERT volunteers, but then again, I realize in most cases that there is no formal process as of now that documents what CERT volunteers can do except during training and exercise drills. We are currently trying to establish different layers to our program so that we can draw some lines and establish better guidelines.

P008 shared,

We have a bunch of high school students that come through our initial CERT training and most of them are less than 18 years old. In the state of California, they can't be a state sworn disaster service worker. So even though they express interest in receiving additional training, I have had to ask them to return when they are 18 to be put through additional training. Some return, some don't.

P010 asserted,

Our framework should be regional or jurisdiction-driven in terms of training. It is unfortunate that the CERT model doesn't allow cross-training or cross-utilization given that people move all the time. CERT coordinators will be best served if the people who have received CERT training can move to a new area within a jurisdiction and be registered into a CERT program with the training they have received. But the training objectives have to be the similar.

Participants implied that CERT programs in most cities are adopting a different approach from the original intent of FEMA. According to Hashemipour et al. (2017), local emergency response program managers could improve their programs by predicting performances based on response-operations in order to better inform their decisions on how they incorporate volunteers in their program. They went further to assert that a competent local emergency response program manager should look to design a program framework that works for their area and have it documented formally.

Misuse of CERT volunteers. Misuse of CERT volunteers was the first subtheme that emerged from the responses that illuminated program ambiguity. Lack of disasters is common in California. As a way of engaging CERT volunteers after several hours of training, most CERT coordinators find different ways or ideas to keep CERT volunteers engaged and active. All year round, they invite CERT volunteers to participate in pre-planned activities where CERT volunteers can serve in roles that are not typical of CERTs. P001 stated,

We have something going on at least every other week to use volunteers for. Whether it be a rehab call-out, volunteer patrol, etc. The idea is to keep them active

even though we recognize that this is not what they signed up for.

Bradley et al. (2017) noted that most volunteers want to be assigned to real tasks and not tasks that leave them wondering if their affiliation or efforts are worth their time and energy. For this reason, CERT coordinators must be careful to assure that their volunteers do not lose their sense of purpose. P008 stated, "We activate our volunteers for traffic control, for firefighter rehab during firefighter drills, to pass out water in fairs or other city events." P003 noted,

Our city is known for a great retirement community; therefore, older citizens with Alzheimer's diseases often go missing. I have seen a spike of CERT volunteer participation in the searches for Alzheimer seniors whenever they go missing. We use our CERT volunteers (if they agree to participate) for this purpose a lot.

Also, P010 stated,

We have used our CERT volunteers during structural fires our firefighters are involved with, for firefighter rehab. They basically show up and be at the service of the firefighters until the fire is put out. We believe it is a training opportunity for them any time they get a chance to support our firefighters in that way.

P006 added,

I can confirm that personally I use community fairs to practice organization and coordination with my volunteers where I deploy them to these fairs and have them set up a table to pass out our program flier and engage with the community, recruit new members and pass out water to participants during city marathons.

Participants acknowledged the complexities of their programs derived from the lack of large scale disasters in their areas of California, and the need to maintain volunteers' interest was the primary cause of their deploying CERT volunteers in what could be described as mundane tasks. Also, they explained that activities other than training are good for the camaraderie, energy, and engagement of the team.

Documentation. Documentation of CERT roles and responsibilities in the city's emergency operations plan (EOP) emerged as the second subtheme from the

discussion of program ambiguity. A CERT program without clearly documented roles and responsibilities in a formal emergency operations plan opens itself to the risk of unaccountability. P002 noted, “We formed some committee called the citizen advisory committee to help with continuity and community outreach and their duties are stated in the CERT section of our plan.” P001 stated,

“This aspect of our CERT program with written roles and responsibilities is effective more so today because people can see that there is a CERT section in the city plan and it creates this positive feeling during training.” And P003 added,

There is no doubt that I would feel accountable if my program is documented in the city plan. I feel really motivated to get the program written down in our emergency operation plan because I am not going to be here that much longer as I would retire in a few years. So I feel like you know, I have got a lot of work to do so when I hand off the program, it won’t just fall apart or that there is no guidance for what we are doing. All this hard work to fall apart, I don’t want that.

P009 stated,

Our city is looking to revise our emergency operations plan to include CERT. The last plan from a few years back did identify CERT but didn’t really have any guidance on how they were organized. So we have come a long way for sure, but in the revised version of the EOP we are pushing for, we will spell out what CERT roles and expectation is. Although right now, we tell the students that CERT has roles and responsibilities in the city plan to make them feel excited about their membership.

Participants noted that specifying written duties and responsibilities for CERT in their EOP adds credibility to CERT program, in addition to establishing their coordination efforts in the EOC operations.

Structural Role Ambiguity

Structural role ambiguity was a fourth theme that emerged from the complexity of mobilizing CERT volunteers for different events described by CERT coordinators. CERT volunteers are expected to show up and position themselves in whatever capacity they

are needed. Rogalsky, Doherty, and Paradis (2016) noted that organizations or groups establish formal roles for individuals to maintain a structure during events. Groups rely on volunteers to fit into any type of structure regardless of size and type. Participants described the importance of maintaining clear communication early on when they mobilized volunteers to maintain some type of control and mitigate role ambiguity. Denny (2015) argued that when volunteers are uncertain about what the organization expects of them or how to do to enact a role during a disaster response, they create their own role. Participants’ descriptions echoed a similar sentiment. P001 noted,

It has been a goal of ours from Day 1 to establish some kind of boundaries with our volunteers and the fire corps so when we mobilize CERT volunteers, they understand who they are as volunteers first because we train them on what to do, once they arrive on an incident scene. Face-to-face with the fire captain, especially on fire fighter support activities, you check in, and validate any information you are required to, and then, continue on with what is assigned for you to do.

P002 stated,

We recognize how a better structure and clear tasks for our volunteers help with the ultimate goal of a disaster. In the recent [local] fire, our volunteers showed up to help. The American Red Cross had to pull them aside and get them trained on mass shelter caring so they could be used at the mass care shelter. For events like this, we trained our volunteers to help with distributing food and help with light search and rescue when needed, but because those tasks were not available, it threw them off and they scrambled to find how to fit in. We were thankful that they received on-scene training for our volunteers to be used in mass care shelter operations.

P003 explained,

We currently do not have any roles established for our volunteers yet, because when I use the volunteers, I tend to ask them to remember what was taught in ICS [incident command systems] with hopes that they can organize better. Because we mostly practice using pre-planned events, I have not really had to provide them

with clear roles either in statement or in writing for them to utilize.

P004 stated,

So as far as using our volunteers in incidents like flood or heavy rain that results in our support function with the fire department, we do not discuss individual roles for our CERT volunteers, but we do at first try to establish some kind of team role during the planning at the city level. What we try to do firstly is find ways that the CERT volunteers can meet unmet needs during a difficult time for our city. Often times they figure it out on the fly.

P006 stated,

Our program has team roles and responsibilities especially in the emergency operations center (EOC) but not for other city events or activities our volunteers support us with. I really want to just do drills with neighboring jurisdictions largely to have a clear role and function for CERT volunteers. I think the earthquake is still fairly realistic but it is so overwhelming in a lot of ways and so this is a better in-between situation for our program.

External stakeholders. In establishing this subtheme, participants discussed their partnership and interaction with other groups as they built camaraderie and sustained connections with outside groups. Participants noted that from the onset when CERT volunteers go through training, the first true relationship they form is with firefighters. The CERT coordinator's job is to assure that relationship building with firefighters is one of the outcomes of CERT training. P002 stated, "Firefighters are instructors in these classes, and having them speak about their experiences forms an instant connection with the volunteers." P003 stated,

The truth is training is always an opportunity to build relationships with other surrounding groups. Lately, we have a working relationship with the American Red Cross. Many of our volunteers are training with the American Red Cross to be shelter workers. Within our fire department group, we try different ways to plug our CERT volunteers into different additional training where they get to meet firefighters they have not met before because it is important for the program. P004 described,

In the absence of actual disasters, we build relationships with our firefighters especially during training. We engage with the firefighters and also our neighboring CERT program during quarterly skills training. We sent four or five of our CERT volunteers over there to that training, and they also do the same too when we host. Oh yes, my volunteers always look forward to the urban shield event, where they get to meet other CERT volunteers and other volunteer groups.

P005 noted,

We do not really have fixed CERT training schedules like some of our sister programs do, so when it comes time for refreshers or additional training, I am always looking for opportunities to reach out to other CERT program managers to inquire about training. I get my volunteers to then work with people from other neighboring programs on training and drills. We merge the drill together so the teams are larger and the people feel good.

P006 stated,

My CERT volunteers are limited to just only planned events like a festival of the arts, etc., so our partnership with outside stakeholders are mostly with the fire department, few with the police department. We are happy the relationship is positive, unlike most cities with police and fire department in-fighting. Because of this, we work well together.

P008 stated,

The challenge with managing a CERT team in a large area means that we are strategically and intentionally placed in areas within the county where our teams can be joined in with other teams from neighboring counties, and so that means that we are always asked to help out other smaller counties with fewer bodies. If we have an incident now, anyone who is trained can respond to that event and work with other teams as needed.

Finally, P010 shared,

My CERT volunteer interaction with outside entities, meaning outside the fire department mainly revolves around a neighborhood council, neighborhood watch organizations and the CERT program at our local college campus where our CERT volunteers go

support them during campus incidents that require CERT support.

The literature review provided information on partnerships that supported most of the views expressed by the participants on strengthening resilience through mutual aid efforts and training. Kapucu, Yuldashev, and Feldheim (2018) noted that partnerships are collaborative in nature and effective at solving complex issues associated with shortage or lack of resources. According to Folta et al. (2015), working with external stakeholders enhances influence and level of cooperation. Training opportunities and shared experiences further strengthen stakeholder engagement and partnership and lessen the burden of inadequacy some volunteers may feel. Often, the least experienced person just needs to be around more experienced people to gain confidence (Joosten et al., 2015). Participants acknowledged the key driver for strengthening CERT volunteers' relationships with professional responders in the field was continuous collaboration and exposure to one another on a regular basis.

Communication. Communication was a second subtheme that emerged from structural role ambiguity; communication was a fundamental extension to engagement with external stakeholders and fitting into a structural role with clear responsibilities. All participants noted that an important aspect of their CERT program was how their communication process improved efforts to establish clear roles and responsibilities for their volunteers in the field. Boersma et al. (2014) noted that a structural communication process makes interaction and engagement seamless. Also, stakeholders with improved relationships can maintain communication while distribution and coordination of resources occurs during a disaster. Participants expressed similar views that enhanced communication processes determine internal and external role clarity between groups. All participants stated that any form of communication established with the sole aim of informing volunteers and the community yields positive outcomes overall.

CERT Credibility

The fifth theme was credibility of the CERT program. The acceptance of volunteers rests on how the public

view them and those with whom they get to work and share resources. Metz, Roza, Meijs, van Baren, and Hoogervorst (2017) noted that volunteers are perceived as "egalitarian" people (p. 156). The value volunteers bring to disaster response efforts has been well documented in the literature (Barsky et al., 2007; Carr & Jensen, 2015; Flint & Stevenson, 2010; Jensen & Carr, 2016; Scanlon et al., 2014; Skar et al., 2016). The more accessible volunteers are, the more likely communities will feel their individual contributions (Roza, Shachar, Meijs, & Hustinx, 2017).

Trust between volunteers and professional responders extends beyond field engagement. Volunteers are keen on maintaining relationships even after they move on from organizations or after an event they supported ends. Although most volunteer engagement is rather informal, considering that they are unpaid, Metz et al (2017) argued that volunteer personal involvement in disaster responses make their personal relationships with professional volunteers very meaningful. Nesbit, Christensen, and Brudney (2017) noted that volunteer management practices influence the credibility of the volunteer organization. For example, their results indicated that budget, staffing, and capability drive how organizations define volunteer organizations' credibility. In the same way, Roza et al. (2017) stated that a volunteering organization's reputation and legitimacy is not questioned if their activities raise awareness in their neighboring community and attract financial resources as well as additional volunteers.

Many participants discussed how the length of the CERT concept plays a role in the discussion of credibility. For example, P001 stated,

When it comes to professional responders trusting CERT and finding them credible, it is a complex issue. But looking at the Red Cross program for example, they run advertisements or commercials on TV. CERT does not have a recognized national platform. Even if you are not a volunteer because you see the commercials on TV and on the news, it makes it easier for you to feel the need to appreciate and accept them.

P003 shared,

Unlike the American Red Cross that has been established more than a century ago, the CERT is relatively new and was only founded at least two

decades ago. Compared to the Red Cross that could boast of the cold war as part of its existence, CERT has only been tested this much across the United States.

P004 asserted,

It is about our CERT volunteers knowing firstly what their role is any time they are activated to incidents. When they are activated to support mass care operations, for example, as long as they are trained for the task and they are assigned for that same task, they can then identify with the skilled responders because they are not learning on the job, they are taking directions and instructions hopefully, and are not trying to do too much.

P005 noted,

Unfortunately, most of our CERT volunteers are very enthusiastic, and they tend to become maybe a little too vigilant, whereas the American Red Cross is able to keep their volunteers in a box. They learn a diverse skillset and so sometimes, their motivation is not backed by the respect they lack compared to a much formidable unit like the Red Cross because passion and motivation alone will not account to acceptance.

P006 said,

It really comes down to who you are working with. My CERT volunteers really need more exposure to reduce any form of distrust with other responding groups. Little things can derail programs really quickly. For example, we have to ensure first of all that we are sending highly trained volunteers to support professional responders because the reality is that these professional responders do not always know what our people are trained in, so the first thing is establishing a high baseline for training.

P007 stated,

We are lucky because firstly in the United States, our CERT program has been around for a very long time so our professional first responders see our CERT volunteers so much now that they have just become part of our response. Our responders are actually now looking for our volunteers now for majority of the activities going on where they see the value of adding CERT as a resource. In addition, our budget and staffing supports the program to flourish in the area of being able to establish trust and validate our existence.

P010 shared,

Many times, we have been asked to use our CERT volunteer in American Red Cross shelter operations. To us, this is a great acknowledgement because we know that the Red Cross is like our big brother in terms of national recognition. But not to be too far ahead of myself here, there is no question that in terms of training, the CERT program is not standardized like the Red Cross training. Throughout the country, CERT training is delivered in many different ways and utilized in many different ways. But the Red Cross regardless of location is a standardized training.

The theme of CERT credibility yielded two subthemes in the study: branding and skillsets.

Branding. According to Wiedmann et al. (2011), volunteers are drawn to organizations with strong identities and a strong sense of cultural values. Blombäck and Brunninge (2016) noted that great core values create a long-lasting corporate culture as well as make the work environment habitable for employees. Curran, Taheri, MacIntosh, and O’Gorman (2016) argued that an organization with identity shows strong engagement and positive vigor. Wiedmann et al. (2011) listed an organization’s track record, identity, program longevity, core values, and use of symbols as factors that enhance branding and marketing.

One of the participants stated, “Our volunteers are used to being seen and treated as a paid staff member of the fire department because of the pride their uniform brings them with a CERT patch.” The impact of a mere patch on volunteer confidence cannot be overstated. All participants discussed how affiliations to CERT enhanced the feeling of togetherness and community among volunteers. Organizations can improve their credibility in the community if the public views their volunteers as ambassadors with good will (Roza et al., 2017). Other findings related success in brand attachment to the connection of trust for the organization in the community and the emotional investment of the people in the community (Rose, Merchant, Orth, & Horstmann, 2016). Therefore, what separates one brand from another is bonding and credibility based on continuous adherence to core values.

Specifically, P001 stated, “Our volunteers are allowed to take their button-down grey shirt and wear their fire corps t-shirt. So, they have to meet the same uniform standards that our department does.” P004 stated,

What we do talk about is the ability to co-brand volunteers because volunteers like to have patches. Volunteers like to be acknowledged for their efforts. My volunteers have our CERT patch on their uniform. Those who have been sent through additional American Red Cross training also get a Red Cross patch that indicates that they have completed the Red Cross training.

P005 noted, It is a matter of marketing and it is a matter of branding. CERT has to develop a little better in order to be valued the same way as the American Red Cross or the Salvation Army, even though these organizations have been established a long time ago.

Rose et al. (2016) noted that marketing is valuable with an emotional attachment to core values which enhance relationships and help organizations sustain their brand. The second subtheme, skillsets, also supports credibility for the CERT.

Skillsets. Blombäck and Brunninge (2016) noted that sustaining skillsets in organizations is similar to how families pass secret recipes from one generation to the next. For volunteers, mastery of skills validates credibility and identity (Nesbit et al., 2017). Also, participants stated they based their decisions to use volunteers on whether the volunteers possessed the requisite skillsets and education. Participants discussed how getting their volunteers ready encompassed training. P004 noted,

One of the ways we build trust and camaraderie with respected groups like the Red Cross is to cross-train or cross-pollinating with them in mass care management, shelter management, and other additional supplemental training. It does take trust to even break through their threshold to get invited for such training. It means training is a factor to our credibility.

As P005 stated, It is the goal to at least have a trained volunteer program and that we know these people have gone

through the training program, and they are vetted and their skillsets. They are probably registered or background checked to their local jurisdiction. So, the city has a resource or a local jurisdiction has a resource of volunteers to be able to use the specific skillset as they know that they can use them from anywhere out in the field to in the EOC.

Lack of Resources

Lack of resources was the sixth common theme among the participants’ responses. All participants expressed a different perspective on the resources that were either in shortage or lacking in their daily activities. Organizing and coordinating resources require a lot of compassion by local ventures with the sole aim of alleviating people’s suffering (Shepherd & Williams, 2014). Intergroup and multi-agency dialogue on resource sharing reduces the potential for role confusion and difficulty in allocating resources during the disaster response (Kapucu, 2015). Participants also described that resources mean different thing to different programs. Most of the participants described in detail the resources that enhanced their program’s effectiveness. Kapucu et al. (2018) described the dependencies involved in use of resources and further that resources must be shared, must flow and fit into the objective that is laid out for the activity. Participants’ responses illustrated that the sentiment on lack of resources was shared evenly for the different programs. Guo and Kapucu (2015) noted that organizations lacking the needed resources to respond to disasters look for partners to share resources; this trend highlights some of the numerous benefits of collaboration. P004 stated,

For me, we have the best of both worlds, to be very honest with you. By aligning up some of the auspices of our non-profit friends county firefighters we are able to go out and do fundraising, we are able to do something that generates revenue for the organization. We receive tax deductible donations because it goes to the non-profit. They couldn’t do that if we were only aligned with the fire department. Because we have non-profit [status], we can go that route.

P008 explained, So, because we are a governmental entity we have restrictions on what we can or can’t do given what we have. But if a CERT organization gets its own non-

profit then that non-profit can reach out and get additional resources, other materials and donations and stuff to them. So, we have got several of our groups have been very successful at getting that so it supplements what we are able to provide them at the county level.

P006 stated,

From a program management standpoint, a lot of the costs are printing costs for materials, training support, new gadgets, and props for training. Now the big one is obviously issuing new equipment to volunteers. So right now, we hand backpacks to our volunteers. It is too expensive so in order to incentivize people for activities, we only give these backpacks out during our continuous education training.

The participants discussed that they realized they have not been truly tested with large-scale disasters to gauge how their response capability may be impacted in real-time. Most of the participants used the East Coast as a good example of a geographical area in the United States that is constantly tested with hurricanes so that the organizations' ability to manage their resources could be well understood. For example, Lumbroso, Suckall, Nicholls, and White (2017) found that risks posed by the different types of disasters in the United States have not yielded a successful approach to resource management despite the numerous lessons that could be learned from the disasters. Most states are still under-prepared to deal with the challenges of managing resources and applying lessons learned from these disasters to future events (Binder, Baker, & Barile, 2015).

Staffing. Staffing was the first subtheme that emerged from lack of resources. Participants stated that they believed their programs could be effective if paid staff were dedicated to the program. Participants described the necessity of having dedicated staffs as well as the barriers to organizing and coordinating activities. While these barriers and pinch points were not necessarily at the same level for all programs, participants expressed common perspectives. P001 stated,

So, we realize we need help, especially with training and outreach. So, we use volunteers who are already part of our fire corps program, but we vetted them and

made sure they are qualified to be instructors, supervised by myself or somebody else who's actually uniformed staff from the fire department. We gotta do what we gotta do, you know?

P003 stated,

I think that in our program we definitely need to train more leaders who are a little more skilled in actually making it work because I have noticed that sometimes our volunteers are not being organized in the field. The point where you are too busy because you are not organized, it becomes difficult to manage. So it's the hard part. I don't really have any staff. So it's all me trying to bring these people up. So it would be helpful for me if I had more help running my division and teaching people and things like that.

P006 shared,

Our program could benefit from additional staffing, to be honest. Having more staff is what is needed to do a much better job. So my goal is actually to staff the EOC and at the same time to do a full-scale exercise where we have CERT volunteers deployed to other activities. I feel like not having enough staff to help in managerial functions is hindering our progress to taking the program to the next level.

Participants expounded on the need to establish a stronger alliance with other counties so as to leverage personnel support as needed.

Funding. Funding was the next subtheme that participants discussed in detail. Most CERT programs survive on public donations to obtain the additional supplies needed to keep the programs thriving. Worker's compensation coverage for activities that are considered grey areas for disaster service workers and the legal ramifications for such activities are a constant barrier to disaster management at the local CERT level. Participants implied that budget cuts created severe setbacks to their plans of CERT training and recruitment as part of disaster preparedness efforts for their local jurisdiction. Nesbit et al. (2017) noted that the presence of politics in public organizations impacts department budgets and makes it almost impossible for volunteer programs to thrive. For example, P002 stated,

Funding is an issue for us. Because it seems like the pass-through funds are diminishing, and our city

doesn't receive it because of global companies in our area. But then, a lot of times, these programs don't get it, but the perception is that . . . these global companies pitch in so we don't need to pay for everything.

P003 asserted,

Well, we have this executive committee and those who basically guide all the continuing education. They manage their own budget. So we essentially vote on how we want to spend the money. We get money through grant funding from the county. It comes out through the feds and then through the county. The amount we get change from year to year, so often times we have to get creative on seeking out donations from the public.

P004 shared,

Because we have non-profit, we typically raise anywhere from \$60,000 to \$70,000. On top of that, when we go into the grant cycle period, because we are aligned with the fire department. I wrote the program under the auspices of the fire department; we participate in the U of C fiscal funding. So I get monies from U of C fiscal to purchase equipment in support of these pods, backpacks, books, etc. Recently, we have sought sponsorships from other partners throughout the city, whether it's community health, [redacted] gas and electric company or sole sponsors, or even local councils.

P010 stated,

We are not like established organizations like the Red Cross. CERT is not a 501(c) type organization, so we don't have the funding specifically for what we do like the Red Cross. We don't get grant through the federal government and donations from both public and private entities like the Red Cross. We pretty much have to do a lot more to get the bare minimum funding to support some of our initiatives. Sometimes that entails setting up events to attract local donors who see the benefit of CERT in their community.

Participants expressed their opinions that lack of consistent funding commensurate with the program deliverables was cause for concern because the communities expect so much from CERT without realizing that funding is a challenge.

Technology. Technology was a final subtheme discussed as a critical resource, which was needed to enhance the programs but was not readily available. Specifically, participants listed technology for communicating and mobilizing resources as a luxury item that the budget did not always cover. At a time when program managers seek faster means of connecting and activating volunteers, communication apps that make it possible are costly. For instance, communication tools used during disasters have proven to make organizing and coordinating work seamlessly. Mason, Drew, and Weaver (2017) noted that uncertainties are hard to manage in real disasters if means of acquiring and exchanging information are unpredictable, untested, and unavailable.

Participants explained the myriad of technologies they have tested for their programs and the barriers that limited access to enhanced communication tools still pose. D. Fischer, Posegga, and Fischbach (2016) posited that achieving a reliable and effective technology for the aid of communication during crises is still a future goal. D. Fischer et al. found that unless the technology is standardized within and between organizations with shared objectives, expecting a seamless outcome for the public during crisis is unrealistic. Participants concurred that the challenges they have with their activation systems will require a collaborative resolve between jurisdictions. All participants agreed that technology is the most needed resource that will advance their programs especially in the area of connecting with the public. Participant 003 described some barriers to advancing technology:

I am eager to move to a newer system that actually works better than calling everybody using a telephone. With that being said, to really use this new system, you kind of have to expect the volunteers to all have smartphones. If we have members who resisted technology, it will be harder for them to interact with us.

Summary

Chapter 4 featured descriptions of the population sample, the procedures for collecting the data and its analysis, the application of the method used for the research, and the description of the methods of interview. This chapter exposed the themes that emerged from the data. The purposive sampling and

established inclusion criteria for 10 participants. There was no deviation from the participant characteristics highlighted in Chapter 3. The participants met the inclusion criteria and were experienced professionals with a wealth of knowledge in the field of emergency management. The professional experience of the sampled participants and their exposure to the phenomenon yielded a good amount of data for the study. Data collected from the sampled participants was carefully coded and analyzed. No software was used to analyze the data collected. Six themes emerged following coding and re-coding of the data: catch-and-release, risk and liability, program ambiguity, structural role ambiguity, CERT credibility, and lack of resources. The participants' lived experiences of coordinating and managing volunteer activity in their jurisdiction yielded these themes. A summary of the findings from the participants' lived experiences will appear in Chapter 5, which will also detail the implications of the findings of the study and offer recommendations for future research.

DISCUSSION, IMPLICATIONS, AND RECOMMENDATIONS

Summary of the Results

The aim of this study was to explore the way CERT coordinators plan for, coordinate, and manage local emergency management systems before disasters occur. That is, the study aimed to shed light on CERT integration into local jurisdictional planning and identify factors that explain variations of the integration. Carr and Jensen's (2015) study was the model for this study. Very little disaster research exists around CERTs, but generally, the impact of disaster research on communities has increased since 1978, when Lichterman (2000) introduced the community as a resource model. The review of the literature for this research indicated several aspects of the community volunteer framework and highlighted the significance of effective coordination and emergent volunteerism in disaster response but failed to note how the unique experiences of emergency managers, specifically CERT coordinators, influence the volunteer teams they oversee.

Due to the infrequent nature of earthquakes in California, the CERT volunteer framework has not been tested or researched extensively. This study took

an opportunity to develop a better understanding of the CERT systems and operations. In addition, no CERT framework exists to gauge integration into local jurisdictional planning nor to explore factors that might explain variations in that integration. For this reason, the objective of this study was to describe CERT integration into jurisdictional planning and any variations that might impact that integration. Volunteer programs differ from one jurisdiction to another. One of the objectives of CERTs is to prepare communities, and the literature suggested that the presence of CERT program across America is only the beginning of broader discussions of the impact of CERT programs in communities.

The findings from this study supported the notion that CERT programs share the same program objectives irrespective of location but differ in approach to management style and level of integration. Integration, in the context of this study, was defined as a core part of a formal system with clear roles and responsibilities in coordination, planning, and leadership. This phenomenological qualitative study explored the lived experiences of 10 CERT coordinators in California, all of whom possessed emergency management experience within a fire department and were actively involved in their CERT programs with more than 20 active CERT volunteers. Following Moustakas's (1994) procedure for data analysis yielded relevant themes that illuminated the relationships between CERT programs and the lived experiences of CERT coordinators.

Six central themes and several subthemes emerged from the data analysis. The first theme was catch and release, a term for the method CERTs use to entice and engage potential volunteers. The participants shared their concerns about the volunteer model wherein training resources are irrecoverable after people get training and so not commit to membership. The second theme was risk and liability associated with managing volunteer activities. The subtheme of disaster service workers (DSWs) emerged from the theme of risk and liability. All 10 participants identified managing risk and liability for DSWs as a grey area from a legal standpoint that needs to be addressed for CERT programs. All 10 participants contributed their experiences to the third theme that emerged: program ambiguity. This theme further yielded two subthemes

of misuse of CERT volunteers and documentation, which referred to the complex barriers to sustaining efforts by CERT management. Structural role ambiguity was the fourth theme to emerge from the data. Participants identified subthemes of external stakeholders and communication as additional elements to barriers in coordinating CERT activities for volunteers. A fifth central theme was CERT credibility. All participants discussed their struggles placing CERT front and center through their volunteers' identity. The subthemes that emerged were branding and skillsets of CERT volunteers. The final theme was lack of resources. Participants discussed the intricacy of balancing staffing, funding, technology, and training, which were subthemes. This study's finding showed that CERT volunteers' relationship and engagement level with their CERT program and coordinators were contributory factors that explain variation of integration.

Discussion of the Results

The study examined the way CERTs are integrated into emergency management systems, that is, into local jurisdictional planning and any factors that explain variations in the level of integration that occurs. From their viewpoints, CERT coordinators acknowledged that in spite of the presence of CERT programs across America, no evidence has shown whether these programs are establishing teams that are integrated enough to justify the continuation of CERT programs. Van Gorp (2014) found that that in emergency management, limited resources, management of volunteers, and different levels of engagement are some of the barriers to successful collaboration. Also, it is important to note training, planning, and coordinating exercises at the jurisdictional level provide insight to understanding integration as used in the context of this study, that is, within the local emergency management systems in a jurisdiction. The ability to understand organizational responsibilities in disaster management with formal structures defines the strength of collaboration, outreach, and acceptance of a program (Follman et al., 2016). According to Kaufman et al. (2014), organizations thrive when they do not operate in silos in terms of communication and collaboration. In the same vein, Owen, Brooks, Bearman, and Curnin (2016) acknowledged that silos around emergency planning, response, and communication must be

addressed in order to sync local emergency management systems. For this reason, integration of formal volunteers into jurisdictional planning is critical to enhancing community resilience.

This study sought to ascertain whether CERTs are integrated within jurisdictional pre-disaster planning and explore factors that might explain lack of integration or level of integration they have achieved. RQ1 asked, How does the integration of community emergency response teams in jurisdictional planning impact effective coordination in emergency response? Coordination is integral to CERT programs' success and local emergency management systems. Participants noted that the extent to which formal collaboration and interaction of CERT volunteers with other surrounding group occur varied based on training opportunities and activities. Participants acknowledged that having had fewer opportunities to activate volunteers to emergencies, such as floods or earthquakes, has not helped with gauging the effectiveness of their systems. However, participants noted that they had been able to access training opportunities and activities involving external stakeholders or surrounding groups such as fire department, police department, emergency medical services, the American Red Cross, and so on.

CERT programs in counties that organize public events get to incorporate their volunteers in these events so the volunteers can interact with the community and other volunteers from neighboring towns. Participants highlighted annual drills held by fire departments as a way of incorporating CERT volunteers to the extent that CERT volunteers play key roles in emergency operations center (EOC) during the drill or perform firefighter rehab functions. Participants expressed some hesitation in activating CERT volunteers to city events to perform traffic control or crowd control functions due to the risks involved with such tasks. When asked about current activation methods, all participants described a vibrant commitment to improving activation processes using modern technology. Participants gave a few examples of communication tools used for the purpose of activating volunteers; they listed communication application tools such as Veoci, Everbridge, Nixie, and Pulsepoint. These communication activation apps all have one thing in common: they possess feedback

loop to get real-time responses from volunteers to assist with effective coordination. Despite some progress described by some of the participants, other participants discussed lacking an activation method, while others still utilized old-fashioned methods such as e-mail or phone trees for activating their volunteers. Altogether, the aforementioned components answered RQ1 as the essence of participants' experience described positive trends for CERT programs in terms of the coordination and organizing taking place today. CERT programs are maturing from what was in place when the participants took over these programs. Also, participants noted that the strength of their volunteer outreach and integration in emergency response in jurisdictional planning depends on having a seat at the city planning table during budgetary meetings and other city meetings where the need for strong advocacy for CERT is dire. Participants concluded that effective planning begins with CERT leadership advocating for and advancing the objectives of CERT at every opportunity where visibility of the program matters. As Follman et al. (2016) noted, a top-bottom approach to leadership must be adopted for CERT programs to succeed. Given that decision-making and approval of resources is critical to the advancement of the agenda of CERT programs, the growth of the CERT programs is directly linked to the appreciation of volunteer framework wherein volunteers' service and willingness to associate with CERT requires more than validation; it needs sustenance and community presence.

RQ 2 was What have been the experiences with coordinating, planning, and integrating CERT into local emergency management systems? CERT coordination and planning begins with recruiting volunteers who are passionate about their community. To this end, participants noted the successes and challenges they have with recruiting volunteers. Participants discussed their different creative methods of recruitment. Participants with few training classes in a calendar year described resorting to setting up booths at local farmers' markets to educate people on disaster preparedness. Other participants do not rely solely on fliers or radio advertisements; they seek out home owners' association meetings to take the disaster preparedness message to their neighbors. Other participants found creative ways of engaging the community by knocking on doors to host short

presentations on disaster preparedness awareness for neighbors in a bid to get them into classrooms. The agility of the recruitment approach for most programs supported the spike in attendance to CERT training.

Also, participants noted that dealing with program ambiguity posed a challenge to their overall recruitment strategy. Specifically, participants' responses on scheduling training and course curriculum supported the importance of committing CERT resources and time to people who are motivated to seek additional training beyond the basic CERT training. Participants reported challenges with having adequate amounts of emergency response equipment for potential recruits upon training completion. For this reason, some participants noted that they have turned away potential CERT volunteers due to lack of resources to support the number of participants in these classes. According to Ward et al. (2018), disaster response teams require training that addresses preparation, mitigation, response, and recovery. Participants shared their experiences of trying to fit 24 to 48 hours' worth of training into several weeks to encourage participation.

All participants agreed that a shortage or lack of equipment and other training resources impacted the training schedule, planning, and coordination of CERT activities as well as the scope with which CERT volunteers are infused into local emergency management systems. The interview responses described the diverse challenges CERT programs face. Despite these challenges, participants noted that their programs have evolved, especially in the ways CERT volunteers are mobilized. Participants stated that fire stations were a primary assembly location for mobilizing their volunteers. Participants noted that CERT volunteers learn in class to first take care of their families and their communities before they making their way to the fire stations to be assigned tasks. The participants' responses concluded that lack of resources limited successful coordinating, planning, and integration of CERTs into the local emergency management systems, establishing the need for distinguishing levels of volunteering and prioritizing documentation in the city emergency operations plan (EOP).

RQ 3 was What is needed to effectively align CERT objectives with local jurisdictional objectives to respond to and manage emergent disasters? CERTs working with multi-agency command systems establish capacity and practices where they have clear roles within the command system (Allen et al., 2014). Participants stated CERT volunteers have no documented role in the incident command system (ICS) or unified command system (UCS). They noted, however, that volunteers learn formal assignments within the emergency operations systems (EOC) with the understanding that they may perform these tasks upon obtaining security clearance to work at the EOC. Participants acknowledged the obstacles in obtaining security clearances for volunteers because volunteer commitment is unpredictable.

Participants stated their closest interactions occur with the fire departments during fire drills and training. Participants also noted that interactions with surrounding CERT groups rarely occur. Participants agreed that volunteers' roles and responsibilities within their jurisdiction have yet to be tested in large-scale disasters where multi-agency command systems are active. Participants stated that in training classes or fire drills, volunteers practice support functions in basic tasks such as firefighter rehabs or portraying victims for the drills. Participants agreed that a gap persists in staffing emergency operations center with volunteers who are integrated formally into monitoring roles to assist emergency managers (Ludwig et al., 2015). Participants concluded that though the outreach programs are vibrant and effective at getting volunteers to participate in disaster preparedness training, the larger needs of fitting volunteers into assigned roles in a disaster response framework is a systemic challenge.

Conclusions Based on the Results

This study sought to clarify factors that could enable CERT coordinators and local emergency managers to integrate their teams into jurisdictional planning and local emergency management systems. Integration, as defined in this context, is a core part of a formal system with clear roles and responsibilities in coordination, planning, and leadership. This study filled a gap in the literature. Very little previous effort has been made to clarify volunteer integration approaches regarding CERT within different jurisdictions. The previous

literature showed how both internal and external collaboration with multiple agencies enhanced team chemistry and success in times of disaster.

The literature also pointed out some of the limitations to successful integration including layers of challenges to address, resources, volunteer coordination and management, level of motivation from volunteers, and requisite knowledge (van Gorp, 2014). This research found that CERT teams fit differently within the integration spectrum. CERT programs may be highly integrated, moderately integrated, or least integrated. High integration involves well established practices and procedures with available resources, encouragement of ideas, and seamless decision making (van Gorp, 2014). Role clarity and establishment of trust are tenets of high integration within volunteer systems as well. Nesbit et al. (2017) noted that the organizational characteristics that yield great integration are leadership, organizational culture, volunteer trust and credibility, and communication. Key dimensions, according to Yoshikawa and Hu (2017), that strengthen organizational structure for integration are helping behaviors, sportsmanship, organizational loyalty, documentation, and creativity or ideas. On the spectrum of integration, teams with stronger identities and loyalty to organizational ideas and those with established documentation are at an advantage to structure.

Participants' responses made clear that volunteers' trust and commitment to the program is not in itself enough to characterize the volunteer program as integrated. To understand the phenomenon of how CERT coordinators manage integration and volunteer activities before disasters, adoption of theoretical frameworks of chaos theory, control theory, and role theory within community resilience and disaster preparedness informed this study (Drabek, 2014). These theories shaped the outcome of the study by clarifying the degree of integration. This study yielded evidence of how the lived experiences of CERT coordinators aligned with previous literature and clarified the theoretical frameworks discussed in Chapter 2. Participants realized that the approach to integrating CERTs into jurisdictional planning relies on a top-bottom management style. Use of alternative styles of leadership explained the gap in the degree of integration CERT programs face today, and

participants in this study sought to align the barriers to the key dimension for organizational structure to

determine CERT integration. Table 3 summarizes the levels of integration and their characteristic features.

Table 3
Variation of Integration of CERT Programs

		The Spectrum of Integration		
Dimensions of Integration		Least Integrated	Moderately Integrated	Highly Integrated
Volunteer motivation		Mostly none and volunteers rarely commit	Low to moderate commitment to post-training activities to gain KSA	Extensive commitment to honing KSAs and time commitment
Sportsmanship/ inter-collaboration		Volunteers rarely participate in activities; low energy	Participate in some annual drills and engage in minimal activities such as victim role playing	High energy, very engaged and frequently participate in activities within or outside jurisdiction where local emergency management systems are tested
Role clarity on EOP (Documentation)		No plans in place.	Volunteers are communicated as available resource but no role listed in local emergency plans	Volunteers have roles in the city's emergency operations plan
Identity		No identity, low trust	Some identity (vests) and CERT patch	Highly branded with uniform, CERT and other organization patches
Organization Culture		Fluid, non-matrix with inconsistent leadership oversight	Matrix organization. Program manager presence with written procedures and guidance for program	Matrix organization with committee and volunteer make up sub-committees. Program manager has staffing support
Training		Completion of basic CERT training. Unlikely to attend refresher training	Completion of basic CERT training and likely to play victims for firefighter annual training	Completion of basic CERT training and additional training on a frequent basis
Strategic Communication		No activation or mobilization technology in place. Communication is through email or phones	Some activation process in place. Tool is not tested but does exist. Telephone tree is actively in use. Feedback loop may or may not exist.	Activation method is frequently tested with feedback loop and continuously improved on with pre-planned activities and with local emergency management system groups.
Credibility and Trust		None	Moderate skillset and Moderate trust	Very skilled and extensive trust amongst volunteers and other surrounding groups.
Retention		Low, volunteers get backpack with basic equipment	Moderate, volunteers are provided additional resources in addition to backpacks and participate in annual drills	High volunteer retention. Frequent and consistent engagement with continued access to fire department equipment and supplies

Table 3
Variation of Integration of CERT Programs (continued)

Dimensions of Integration	The Spectrum of Integration		
	Least Integrated	Moderately Integrated	Highly Integrated
Field Familiarity	Low to none	Fairly knowledgeable about assembly locations and mobilization plans.	Very knowledgeable about mobilization plans and mutual aid processes with jurisdictional groups.

Dimensions of Integration

Since their inception in 1993, the number of CERT programs in the United States has increased tremendously. After Hurricane Katrina and the terrorist attacks of September 11th, 2001, federal support enhanced citizen volunteer engagement in disaster management. According to a FEMA (2017) dataset, as of 2015, 2,584 approved CERT teams existed in the United States. First, the objective of a CERT is to educate the community about disaster preparedness and provide basic disaster response skills to combat these hazards. The success of CERT programs in the United States depends on the details of administration of these programs.

No two programs are managed the same way; therefore, how integrated CERT teams are to local emergency management systems must be explored. For this study, the spectrum of integration—least, moderately, and highly integrated—depended on key tenets or traits that organizations must possess to validate strengthened partnerships with other volunteer organizations. The findings indicated that throughout the existence of a CERT program, integration levels may fluctuate along the spectrum of integration. Preplanning for disasters involving jurisdictional groups within local emergency management systems contributes to the degree to which formalized and recognized teams integrate. Such teams have the capacity to be represented in a city’s emergency operations plan.

Least Integrated Teams

Two CERT programs fit within the least integrated category on the spectrum. These programs struggled with recruiting volunteers, not because they did not have a proven recruitment method, but because they offered few training classes throughout the year or

their class sizes were small. Inflexible training plans also makes volunteers uninvolved and detached from other planned activities, and perishable skills quickly become problematic when refreshers are not part of CERT’s offerings.

Least integrated CERT programs provide basic CERT training but are not poised to provide additional training or plan other activities throughout the year because of a shortage of resources or because volunteers rarely commit to membership after receiving basic CERT training. Lack of skillsets and motivation among volunteers can be attributed to the rigidity of the CERT programs wherein volunteers are not activated to participate in activities and volunteers are not equipped with basic equipment. Volunteer motivation determines the success of CERT programs. According to Lindner, Kuehnel, Betke, and Sackmann (2018), what inspires volunteers to attend disaster preparedness training and committing to more training is being ready to help. Lindner et al. also suggested that organizations should harness volunteer motivation to program success.

Least integrated CERT programs are not in close proximity to other well-resourced or well-structured CERT organizations where shared objectives and collaboration can coexist. For this study, the two CERT programs that fit into the category of least integrated were at an infancy stage of developing structure for their programs. Although these two CERT programs recognized that they were working in silos, that is, conditions under which knowledge is not shared with other programs, they also realized they had room for improvement. A focus on outreach and additional resources is critical to moving further in the spectrum towards more integration.

Moderately Integrated Teams

Moderately integrated CERT programs have achieved measurable successes in developing an organizational structure and establishing a presence in the community. Half of the CERT programs sampled in this study fit into the spectrum as moderately integrated teams because of the heightened disaster preparedness awareness that their outreach and recruitment brought. These CERTS stand in stark contrast to least integrated programs, whose program managers struggled to maintain momentum for outreach and recruitment. Unlike least integrated teams, moderately integrated CERTS gained knowledge, skillsets, and attitude (KSAs) through training activities that extended beyond the basic CERT training.

Moderately integrated programs strive to create an identity for CERT volunteers using available resources. Usually a matrix organization, the program manager constantly sought ways to implement processes and find innovative ways to engage their volunteers. An example of an innovation that gets volunteers actively involved is participation in an urban shield exercise, which involves multiple agencies and affiliated groups such as the American Red Cross and fire corps. According to FEMA's website, the goal of urban shield is to assess pre-existing systems and response capabilities by raising disaster preparedness and awareness and building collaborative support among jurisdictional groups and multiple agencies.

CERT managers use urban shield as a selling point to entice potential volunteers. Ideally, volunteers learn CERT roles in disaster response and practice the roles during drills. Moderately integrated teams do not necessarily have active clear roles and responsibilities documented in a jurisdictional emergency operations plan. These teams practice mobilization spots and have fair knowledge of assembly locations and activation process. The additional training volunteers receive after basic CERT training takes into account interactions with multiple agencies and practice assigned tasks using an ICS model. In addition, moderately integrated teams are force multipliers in the sense that CERT volunteer utilization with professional responders improves disaster response efforts.

Using the ICS model, moderately integrated teams may be assigned triaging roles following earthquakes or utilized in the EOC to perform other support functions. Another distinguishing characteristic of moderately integrated teams is the ability to participate in meetings where volunteers play key management roles as part of a committee. These meetings include opportunities to share best practices and develop learning opportunities so that volunteers feel valued. Moderately integrated teams brand themselves so that their identities are familiar to different volunteer programs. For instance, establishing brand recognition of CERTs using vests and patches allows the group to showcase skillsets and render interactions with other jurisdictional groups less strenuous. In contrast to least integrated teams, these groups look forward to preplanned activities such as city marathons, fairs, playing victims for firefighter annual drills, and performing firefighter rehab activities.

Resources for moderately integrated teams may be sufficient for program sustenance, but often CERT program managers may have to devise means to get funding for their programs. CERTs are non-profit 501 (c) (3) organizations, but the funding may not be sufficient for the pressing needs of a CERT program. Moderately integrated teams solicit funding and seek out donations from private citizens or organizations to take the program to the next level with equipment, tools, and advanced training and outreach activities. Moderately integrated teams focus on minimizing the challenges of engaging volunteers. Moderately integrated teams show different strengths within the spectrum based on the key dimensions as some programs are better structured than others, but overall all fit into the category of moderately integrated on the spectrum. To understand how the key dimensions are critical to CERT programs among the geographical locations sampled for this study, researchers must understand the characteristics of highly integrated teams.

Highly Integrated Teams

CERT programs that fit into the highly integrated category on the spectrum possess the highest level of integration that is possible for success. First, highly integrated teams prioritize commitment to KSAs. In addition to the basic CERT training, they support additional training within and outside their

jurisdiction. For instance, the American Red Cross offers shelter operations training, and CERT volunteers from highly integrated teams participate in this type of training.

In addition, highly integrated CERT volunteers receive special training opportunities with firefighters; volunteers may attain ham radio licenses or utility truck licenses. The stakes are higher for CERT activities with higher risks and liability and therefore require proficiency in disaster response skillset beyond the basic CERT skills. The basic CERT skillsets place volunteers in a position to understand the hazards of disasters that may occur and how such hazards can be mitigated in their communities. Also, the basic CERT training skillsets enable volunteers to play minor supportive roles to professional responders in a disaster. The additional training and collaborative interactions, however, elevate volunteers' opportunity to showcase their capabilities and place them in a position to work with highly skilled professional responders.

Unlike the least integrated and moderately integrated teams, highly integrated teams are in a class of their own. They wear their prides on their sleeves and represent their organizations as though they are paid staff. And in return, their organizations reward them with recognition awards or training opportunities and sponsorship that is typically costly to these organizations. Highly integrated teams are highly branded in uniforms and possess several patches from reputable partners or affiliated organizations, for example, the American Red Cross, Medical Reserve Corps (MRC), Fire Corps, Search and Rescue Association, and so on. This high level of training establishes their credibility and earns them trust from professional responders.

Like moderately integrated teams with non-profit 501 (c) (3) status, highly integrated teams have multiple ways of getting additional funding and donations to advance their cause. Therefore, providing volunteers with quality tools and equipment is not a challenge for them. Highly integrated teams have clearly delineated roles and responsibilities for their volunteers, and these roles and responsibilities are well documented and established in a jurisdictional emergency operations plan (EOP). Because they mostly meet

unmet needs within their organizations, their recognition is well documented as well as broadcasted in formal events.

Like moderately integrated teams, highly integrated teams anticipate and support preplanned activities such as the urban shield and firefighter training, because of the level of success in collaboration that they bring to the organization. These groups are highly energetic, highly engaged, and well respected. They are given management roles within subcommittees during city planning, and their ideas and views are taken into consideration during disaster planning. In some cases, the fire department leadership has come to recognize these volunteers because of their level of involvement and their loyalty to their CERT program. Two of the 10 programs in this study fit into the highly integrated category on the spectrum, and these program managers' continuous improvement strategy was tracking and trending the program's performance. Coordinators also used data to promote awareness about their program's accomplishments and solicited feedback from all stakeholders with whom they interacted. They shared the feedback with the volunteers, who were part of the subcommittee or who had been given the appropriate authority to take actions on behalf of the program. An example of typical feedback highly integrated programs receive is information on the nature of training exercises or outreach strategy for recruiting more volunteers.

Comparison of Findings with Theoretical Framework and Previous Literature

A review of the literature yielded an array of research studies that supported this study's findings. The evolution of CERTs in Los Angeles following major earthquakes included training communities to be better prepared to respond to disasters due to the long wait some communities endured to get help from the government (Choate, 2011; Ludwig et al., 2015; van Gorp, 2014; Yamamura, 2013). The Los Angeles Fire Department put together a CERT program following the 1994 Northridge earthquake, and then they increased outreach to the community (D. M. Simpson, 2001) through CERT.

In other parts of the United States, expansion of CERTs became more evident after September 11, 2001, the date of the attack on the World Trade Center

in New York City (D. M. Simpson, 2001, 2002). This attack brought together volunteers from different backgrounds to assist in different capacities. Today, at least 2,584 approved CERT programs now exist as part of the disaster preparedness efforts in communities. The San Francisco bay area and the Los Angeles area have added several CERT programs since these cities suffered devastating earthquakes. This study explored the sampled CERT programs as supported by the literatures on the history and emergence of CERT programs. These communities recognized that their cities are prone to earthquakes, and this knowledge influences the support and participation the CERTs receive from the communities.

In the same vein, the varying degrees of integration as determined by key dimensions were consistent with the phenomenon being studied. However, very little effort has been made to identify new volunteer integration approaches regarding volunteer organization and coordination with role clarity and the importance such role clarity has on the success of CERT within the different jurisdiction (Carr & Jensen, 2015). Also, previous literature provided very little or no research on the phenomenon of how volunteers from formal organizations such as CERTs are organized, mobilized, activated, managed, directed, and coordinated by their managers into actions following a publicly declared disaster. Similarly, this study's findings revealed the mindsets of CERT coordinators who manage volunteer activities; leaders speculated that volunteers may lack motivation because of the shortage of large scale disasters in recent times to encourage volunteer participation. This study supported the previous literature on stimulating volunteers; findings noted different levels interdependency in how volunteers stay motivated enough to affiliate with an organization (Lindner et al., 2018). This research study contained less empirical research that could provide a theoretical framework. The few studies in emergency management and qualitative disaster research that utilized Moustakas's phenomenology failed to close the gap on CERT volunteer research.

Findings from the current study aligned with previous conclusions that the lack of role clarity for entities such as CERTs contributes to the lack of acceptance

by professional responders during disasters (Curnin et al., 2015; Rico et al., 2017; Schmutz et al., 2015). The current study showed that indeed integrated teams have earned the respect and trust of professional responders based on frequent collaboration, interaction, and KSAs where role clarity is established. Specifically, the study supported legitimacy, utilization, and liability issues to be the causes of professional responders' failure to accept CERT volunteers' contributions during disaster.

Findings from this study were consistent with the previous conclusions that CERT and its volunteers lack the needed resources to establish legitimacy and authority (Brudney & Meijs, 2014; Detjen et al., 2016; Kvarnlöf & Johansson, 2014). Other researchers asserted that control, chaos, and role theories must align for logical flow of information and strategic agility for a program to be structured and systems to be effective (Kreps, 1986; Kreps & Bosworth, 1993; Oloruntoba, 2013; Sellnow et al., 2002; Waugh, 1993). This finding aligned with the current research in that the key dimensions for integration determined the variation in CERT integration. Therefore, this study's finding supported the conclusion that for CERTs to be fully integrated, all three theoretical frameworks discussed in Chapter 2 must exist functionally and consistently. Studies by Rivera et al. (2015) and van Gorp (2014) found that lack of social integration of emergency volunteers into disaster preplanning results from the lack of trust, commitment, and collaboration. However, organizational studies on levels of social integration and variances did not specify the use of Moustakas's (1994) phenomenology to understand lived experiences common to CERT coordinators.

Interpretation of the Findings

The goal of this study was to clarify factors that could enable CERT coordinators and local emergency managers to integrate their teams into jurisdictional planning and local emergency management systems. This study suggested that various levels of integration existed in different jurisdictions. According to Drabek (2014), organizations with vested interest in developing programs to respond to large scale disasters such as earthquakes generate coordinated responses. The need to foster integrated teams cut across different layers of leadership levels. The study

revealed the importance of interaction and collaboration. This study also confirmed that highly integrated teams measured against the fundamental coexistence of trust, control, and structure that is critical to effective management and coordination of CERTs (Kalkman & de Waard, 2017). Highly integrated teams were more trusted, better controlled, and had developed a structure that allowed them to interact and collaborate with jurisdictional groups. Less integrated teams lacked or could improve on their outreach, which would in turn translate to better collaboration and partnership with jurisdictional groups to safeguard an appreciable amount of balance on control and trust.

The barriers of establishing organizational cultural branding or identity was one of the key findings from this study because those CERT programs that were edging toward high the end of the continuum of integration reportedly had achieved the goal of effective branding. According to Wang, Mook, and Handy (2017), volunteers' sentimental attachment to their community is helpful, but it is not sufficient for volunteer retention if volunteers are not "civically engaged" (p. 144) with other reputable affiliated groups whose ideas, information, and opportunities are optimized for quality disaster response. The current study validated CERT integration from a standpoint of partnership, volunteer outreach and involvement through leadership, and the need to have a seat at the table where ideas and knowledge are shared.

Furthermore, moderately integrated teams edging towards highly integrated recognized the gaps that lack of activities and interaction with other groups posed to their program. In spite of the current study's findings, previous literature lacking theoretical frameworks for volunteer research raised the stakes in the prediction of the degrees of integration. Specifically, the propensity to generalize lived experiences of CERT coordinators using Moustakas's (1994) phenomenology made this study's findings relevant to the disaster volunteer research. Findings in that research established the gap in understanding the phenomenon of CERT coordinators' management along with understanding of the factors that cause variation in CERT integration.

Limitations

Several limitations impacted this study. First, this study was modeled after Carr and Jensen's (2015) study, which used purposive sampling to select local CERT coordinators from the FEMA VII region, which is prone to hurricane, tornado, and earthquake disasters. However, for this study, the sampling was limited to only CERT coordinators from areas in California that are prone to floods and earthquakes; therefore, no studies were specific to the areas identified in this study to compare findings. Another limitation was the low participation and response rate during recruitment and the sampling population associated with it. The low participation and low response rate can be attributed to obsolete contact information for potential participants obtained from the citizen corps website. The website contained contact information for program managers who had retired or moved on to other functions or departments. The use of purposive sampling contributed to the limitations of the study's findings and generalization (Carr & Jensen, 2015). Another limitation was the requirement that CERT coordinators had to have managed CERT programs for at least two years. Also, as it is common in qualitative phenomenological research, I had to bracket out personal biases associated with being a CERT volunteer at one of the CERT programs in California. The limitation of researcher bias was nevertheless a possibility.

For this study, Carr and Jensen's (2015) research is being modeled; hence, the same interview questions were chosen from the original study in addition to other questions. Specifically, Interview Questions 2, 3, 4, 8, and 9 were replicated verbatim from Carr and Jensen's study. Additional questions inserted specifically for this study reduced the potential for generalization to generate a better understanding of the theories explored in this study. In addition, I had to open up about being a CERT member during the research process, and this disclosure may have influenced the responses of the CERT coordinators. Also, the study may have been limited because of the lack of large scale disasters as the last major earthquake in California happened more than two decades ago; hence, participants' lived experiences may have been generalizations based on assumptions rather than actual experience, and some may see this as a limitation. The last major earthquakes occurred

more than 20 years ago; as a result, the absence of comparative studies on the phenomenon may have contributed to the limitations of this study. This limitation highlighted a need for more empirical and comparative qualitative phenomenological research into predisaster integration and coordination of organized volunteerism. These limitations, however, do not take away the substance of the data gathered from the study to understand lived experiences of the participants.

Implications for Practice

This study focused on understanding the lived experiences of CERT coordinators in coordinating and managing CERT volunteer activities. The implication of a highly integrated trained CERT volunteer is reducing the potential for chaos in a disaster. When CERT volunteers are trained and clear about what they are to expect in a disaster, they follow instructions and perform activities against an established incident objective. Demands during a disaster are uncertain, and resources can stretch thin within a few minutes of a disaster occurring. Resources may not be available for days after a disaster strikes.

Before Hurricane Katrina, FEMA had utilized the American Red Cross as a formal resource to communities and provided full funding to the program. However, after Hurricane Katrina, FEMA granted additional funding to support community response volunteer programs such as CERTs (Carafano et al., 2007; Carr & Jensen, 2015; Ward et al., 2018). Despite the welcome development by FEMA to fund these programs, this study's findings indicated that government funding is insufficient to move CERT programs to the next level of disaster preparedness, where all facets of disaster management exceed their objectives. For example, well-resourced CERT programs allow for continuity in knowledge through practice drills and team collaboration, as would be expected in a real disaster. The consequences of shortages in resources for CERT programs to operate at an optimal level yields an outcome wherein organizations are ill-prepared in disaster management, leaving teams to self-coordinate and thereby increasing the potential for harm and danger to volunteers (Lindner et al., 2018). In addition, this study's findings established that stability in strategy

and resources are needed for effective CERT integration.

Also, from an organizational standpoint, the implications of the theoretical framework for this study—that is, control, chaos and role theories—to emergency management offered organizations the functional and systemic framework to operate a linear hierarchy wherein decision making can be better streamlined in disasters (Kalkman & de Waard, 2016; Patterson et al., 2010; Pizzo, 2017; Sellnow et al., 2002; Walker et al., 2017; Watson et al., 2014). For example, as evident from past disasters, the emergence of use of volunteers without structure and effective coordination has challenged disaster response. Specifically, following the 1994 Northridge earthquake, the September 11, 2001 terror attacks, and the 1989 Loma Prieta earthquake, the abundance of willing volunteers converging to assist in these disasters created strategic programs due to lack of clear preplanned roles for the volunteers to fill (L. Fernandez et al., 2006; Sauer et al., 2014).

In order to inform policy and best practices, sustaining the whole-community approach for disaster management presents a realistic outcome because this type of approach minimizes the barriers of ineffective communication and lack of coordination. The findings from this study revealed the desire of CERT coordinators who are painfully aware of the importance of utilizing current technologies in communication tools to mobilize their teams. However, challenges still loom in the alignment of mobilization methods jurisdictional groups utilize because of the uncertainties in testing out volunteer feedback loops in the local emergency management systems.

The findings indicate that this gap may create real-time delays in connecting coordination efforts and communication to CERT volunteers where inter-jurisdictional collaboration is required (Rivera et al., 2015). On the other hand, the margin of error for role theory depends on communication and an allegiance to a system that enhances credibility and trust (Ostrom, 1998; Sellnow et al., 2002). Finally, the study sought to inform students in the field of public safety and emergency management (and others with the capacity to shape public policy on emergency management)

about what steps might be taken to bring about effective community collaboration and jurisdictional coordination for emergency response planning.

Recommendations for Further Research

The findings from this study supported the evidence that highly integrated teams have achieved much since the inception of the CERT program and even more given the individual histories of the sampled CERT programs. This study did not provide in-depth data regarding the different management styles being utilized at the different CERT programs. Information on the impact of leadership and management style by CERT coordinators on the different programs could prove beneficial to CERT. Examining the details of how a management style specifically impacts CERT outreach and recruitment efforts could yield a positive outcome for future CERT framework at the local or regional levels.

Future researchers could also explore the concept of medical and insurance coverage for disaster service workers in regional and county-level CERTs to clarify why grey areas exist in mobilizing CERTs for preplanning activities that seek to strengthen volunteer capability in disaster response. A qualitative study of CERT volunteers' experience might explore the different options of jurisdictional training in determining comparatively how to promote agility and flexibility for motivated volunteers who move from one CERT locale to another.

While this study explored theoretical frameworks centered on chaos, structural (role), and command to effectively coordinate and manage CERT, future researchers could build on the ambiguity of CERT volunteerism in terms of the levels of volunteerism that remains unclear for some jurisdiction using both quantitative and qualitative methodologies. Finally, this research could be replicated to clarify the key dimensions outlined on the spectrum of integration, as well as other underlying factors that established the degree of integration. The future research might expand on the sample size, population, and geographical scope within the United States and the nature of disasters for an exploration of the phenomenon of lived experiences using qualitative methods for comparison.

CONCLUSION

This research aimed to explore factors that would allow for CERT volunteers to be fully accepted and formalized for successful jurisdictional planning to enhance effective coordination and collaboration in disasters. The study's findings regarding the extent of integration of CERT in jurisdictional predisaster planning and the factors that explained such variation supported the findings from Carr and Jensen (2015), whose study was the model for this research. The study concluded that for integration of CERTs to occur, coordination must be made central to CERT programming and local emergency management systems. This conclusion aligned with the idea that formal collaboration and interaction of CERT volunteers with members of other groups is critical to achieving an integrated team.

The findings also confirmed the significance of the three theories explored for this study: structural (role), command, and chaos theory. Use of an incident command system to determine the interdependencies of all three theories can help explain any variation of integration that might exist with teams. The findings noted the impact of limited resources on successful coordination, planning, and integration of CERTs into the local emergency management systems. This conclusion is common in most disaster research findings; however, regarding volunteer motivation and affiliation to a CERT organization, this study confirmed that the legitimacy of a CERT volunteers depends on the availability of resources to retain CERT volunteers and encourage CERT recruitment. It is important to state here that the uniqueness of this research lies with using Moustakas's (1994) phenomenological methodology to replicate Carr and Jensen's (2015) study to fill the gap in literature and understand the lived experiences of CERT coordinators who manage CERT teams. The results of this research reinforced awareness to the experiences of CERT coordinators who struggle with role clarification and few drill practices given the absence of recent disasters in the sampled areas (Barraket et al., 2013; Hamerton et al., 2015; Hearn & Deeny, 2007; McNamee & Peterson, 2016; Porter & Henriksen, 2016; Rotolo et al., 2015).

Finally, the study acknowledged that CERT coordinators exhibit the right attitude to taking their CERT programs to the next level, but the numerous and notorious pinch points limit CERT advancement, including the absence of a top-bottom approach to program ownership and decision-making for CERTs. These challenges were notable from the themes that emerged from the study's data analysis. The absence of a top-bottom approach can exacerbate the complexities of disaster management in communities where volunteer involvement is prominent.

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