AMERICAN UNIVERSITY OF BEIRUT

COMMUNITY DISASTER RESILIENCE: THE ROLE OF SOCIAL CAPITAL

by
LACIE RENAE SIMPSON

A thesis
submitted in partial fulfillment of the requirements
for the degree of Master of Arts
to the Department of Political Studies and Public Administration
of the Faculty of Arts and Sciences
at the American University of Beirut

Beirut, Lebanon
March 2016

AMERICAN UNIVERSITY OF BEIRUT

COMMUNITY DISASTER RESILIENCE: THE ROLE OF SOCIAL CAPITAL

by

LACIE RENAE SIMPSON

Approved by:

Dr. Tania Haddad, Ph.D, Assistant Professor — Advisor
Political Studies and Public Administration, AUB

Dr. Thomas Haase, Ph.D, Assistant Professor — Member of Committee
Department of Political Science, Sam Houston State University

Dr. Carmen Geha, Ph.D, Visiting Professor — Member of Committee
Political Studies and Public Administration, AUB

Date of thesis defense: March 3, 2016

AMERICAN UNIVERSITY OF BEIRUT

Thesis Release Form

Student Name: Simpson Lacie Renae
Last First Middle

√ Master's Thesis Master's Project Doctoral Dissertation

√ I authorize the American University of Beirut to: (a) reproduce hard or electronic copies of my thesis, dissertation, or project; (b) include such copies in the archives and digital repositories of the University; and (c) make freely available such copies to third parties for research or educational purposes.

○ I authorize the American University of Beirut, **three years after the date of submitting my thesis, dissertation, or project** to: reproduce hard or electronic copies it; (b) include such copies in the archives and digital repositories of the University; and (c) make freely available such copies to third parties for research or educational purposes.

Lacie Simpson 4/19/16
Signature Date

ACKNOWLEDGEMENTS

In loving memory of my Nana, Roberta Jane Simpson. Your kindness, positivity, and perseverance will stay with me for the rest of my life. I can only hope that the family I create one day adores me as much as how you were adored by us.

12/10/1920 – 1/24/2016

AN ABSTRACT OF THE THESIS OF

Lacie Simpson for Master of Arts and Science
Major: Public Administration

Title: Community Disaster Resilience: The Role of Social Capital

The generation and mobilization of social capital plays a significant role in the process of building community disaster resilience. This thesis examines the literature about resilience, community resilience, social capital, and the relationship between social capital and community resilience. Using an explanatory literature review method, 100 scholarly articles published between 2000 and 2016 were utilized. The purpose of the research is to aggregate a growing body of literature, provide conceptual clarity and identify practical recommendations for communities seeking to bolster their resilience against hazards. The notion of community resilience represents an important paradigm change in the field of disaster management because it emphasizes an approach that places communities and individuals at the center of the decision-making process, therefore undermining state-centered approaches. Recent small, medium and large-scale disasters have proven that community members play an integral role in preparing, responding, and recovering from emergency situations. Looking at community resilience from a social capital perspective shows how communities that are socially connected are more likely to recover from disasters quicker than communities that are socially stagnated. In the period following a disaster, the first responders are usually family, friends and neighbors. During the course of a disaster response, community members and local organizations are ideally positioned to access and procure human and financial resources that are already embedded in the community. With state budgets shrinking and slow response times, community resources have proven to be important actors in all stages of the disaster cycle.

CONTENTS

ILLUSTRATIONS

Figure Page

CHAPTER I
INTRODUCTION

A. Introduction

Disasters and humanitarian crises disrupt the lives of around 217 million people every year (Leaning, 2013, p. 1863). In 2011, for example, disasters caused $366 billion in economic losses, of which 80% were located in the Asia-Pacific region (Oxley, 2013, p. 1). According to Cutter et al. (2012), the United States experienced $55 billion dollars in disaster consequences in 2011, with fourteen separate events that each generated more than $1 billion in damages. These statistics, however, do not fully capture the human and psychological impact that disasters have on communities, as the majority of those affected by disasters are low-income women, children and the elderly (Oxley, 2013, p. 1).

According to the International Federation of the Red Cross and Red Crescent Societies, "a disaster is a sudden, calamitous event that seriously disrupts the functioning of a community or society and causes human, material, and economic or environmental losses that exceed the community's or society's ability to cope using its own resources." (International Federation of the Red Cross and Red Crescent Societies Website, 2016). Societies have, over the years, adopted different approaches to the threat of disaster. Historically, these approaches have focused on disaster response, meaning the activities that follow a disaster. Contemporary approaches focus on the disaster cycle, meaning governments and non-governmental entities take steps to mitigate, prepare for, respond to, and recover from, natural and man-made disasters. This new approach to disaster management emphasizes resilience as the means through which communities can prepare

themselves to confront disastrous events. The shift in focus to communities has led many researchers to seek answers from social capital literature as means to guide the creation and mobilization of resources already embedded in communities.

1. Social Capital and Community Resilience

In terms of disaster management, the concept of communities and social capital is synonymous with the need to incorporate local actors. Communities with more abundant reserves of social capital are more resilient to the challenges presented by disasters. Not only are friends, families, and community organizations quicker to respond than official state entities (at a fraction of the cost), they have more localized knowledge about the area and needs of community members, and have invested interest in community revival. Yet despite the growing number of cases such as LaLone (2013), Rivera and Nickels (2014), and Alaimo, Reischl, and Allen (2010) of social capital playing an incremental role in the community disaster resilience-building process, there is not yet a wide acceptance on the behalf of scholars and emergency managers that social capital is critical component of community resilience (Tierney, 2013, p. 3). Every large scale disaster in the United States in the last ten years has underscored the importance of community-level social capital resources (Acosta, Chandra, and Ringel, 2013, p. 348). Hurricane Katrina proved that government resources alone are incapable of responding to disasters, and that neglecting to bolster the capacities of community resources during times of normalcy can have profound consequences (Rivera & Nickels, 2014).

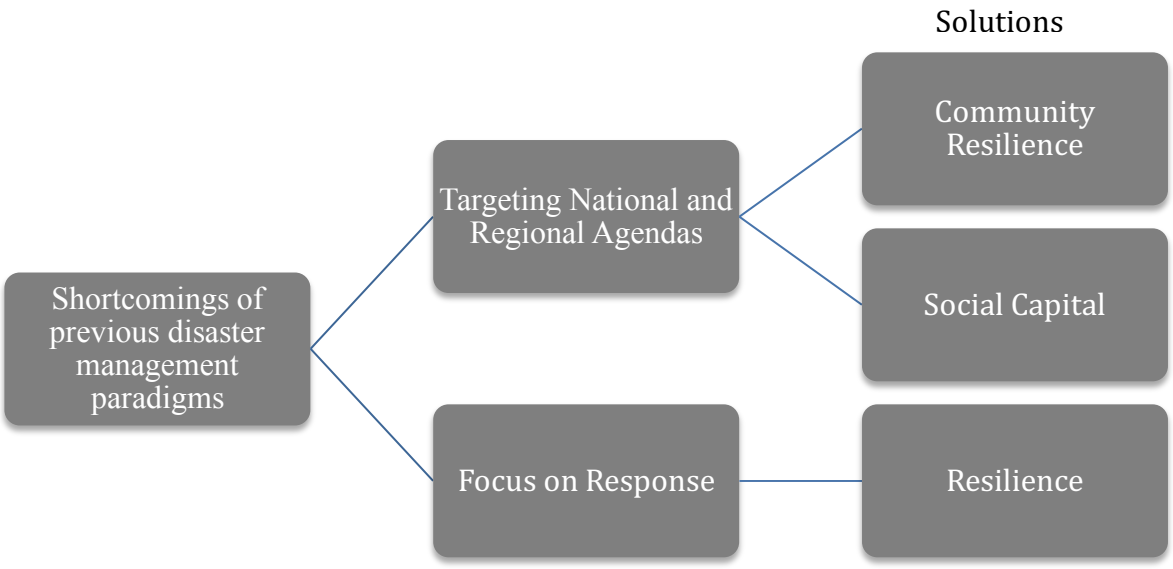

Figure 1.

Previous disaster management paradigms fell short because of the emphasis on national/regional agendas and allocating too much resources to the period immediately following disasters. In order to mediate these national/regional agendas, scholars have identified the first challenge of targeting community localities as an effective way of combatting broad resilience-building policy that lacks context specific solutions. Community resilience focuses on building the strengths of community members to mobilize and come to their own aid during times of crisis. Therefore, the concept of social capital reflects this vision because it also places importance on bottom-up policy dissemination and bolstering formal and informal networks of community resources. The second challenge of a disproportionate focus on disaster response can be met with a more wholesome consideration of the entire disaster cycle, mainly the state of a community before disastrous events. Disaster resilience pays special attention to the period before a

disaster. Resilience theory in the context of disaster research ameliorates this challenge by arguing that stronger and more socially connected communities are able to more quickly and effectively bounce back after a disruption.

The need to place more emphasis on communities and their ability to harness social networks is reflected in international frameworks. In 2005, 168 United Nations member states signed the Hyogo Framework. The framework ushered the concept of resilience into mainstream disaster management and community development strategies. This framework was successful at placing disaster risk reduction on the agenda of many governments around the world and reducing the death toll in regions that are prone to cyclones, floods and landslides. This success has been attributed to the awareness raised by the Framework to invest in early warning systems, enhanced risk governance policies, and the drafting of national disaster risk reduction policies (Oxley, 2013, p. 1). Despite this success, the negative impacts associated with disasters such as Hurricane Katrina and the 2011 Japanese Earthquake and Tsunami exposed the shortcomings of the framework's strategy. The main shortcoming of the Hyogo Framework was the failure to translate national policy into local action at the community level and incorporate non-state entities (Oxley, 2013, p. 2). Sternberg and Batbuyan (2013) found that in some of the most disaster prone areas of the world, local actors had never heard of the Hyogo Framework. Replacing the Hyogo Framework in 2015, the Sendai Framework continued to emphasize the importance of resilience, but recognized the need to create more people-based versus state-centered approaches (United Nations Office for Disaster Risk Reduction, 2015). Social approaches focus on the strengths and the capabilities of ordinary citizens who have invested interest in commmunity survival. The success of the Sendai Framework will

depend on the conceptual advancement of community resilience and social capital as means to harness local resources.

2. Conceptual Framework of Thesis

To some, resilience represents a paradigm shift in how people and organizations confront and cope with events that disrupt the status quo (Manyena, 2006; McEntire, Fuller, Johnston, & Weber, 2002). At the present, the concepts of resilience, community resilience and social capital are not fully developed. This is mainly because there is no consensus on how to define and characterize the concept of resilience as a theoretical foundation. The confusions related to definitions, as well as questions about how to measure and develop resilience, casts a shadow on research surrounding community disaster resilience and social capital. The purpose of this research is to define and deconstruct the concept of resilience, identify the attributes of community resilience, to further understand the role of social capital and determine practical ways for communities to bolster resilience. While there are many different avenues that communities can pursue to enhance resilience, some of the most promising recommendations stem from the literature that advocates social capital as a valuable resource to confront turmoil, and therefore will be a secondary subject of this thesis.

By conducting a comprehensive review of the resilience literature published in academic journals since 2000, this thesis will seek to push resilience from the realm of theory into practice. This task necessitates an in-depth review of the concept of resilience separate of it's context specific arrangement as an effort to provide a solid theoretical foundation to the findings, and scholarly clarity to a concept that lacks consensus despite

it's common use in disaster and community development policy. It is only possible to understand the concept of community resilience and the role of social capital after a theoretical and conceptual platform of the concept of resilience is established. After a review of the resilience is applied broadly, consequential chapters will focus on the concept of community resilience and social capital. After both concepts are examined independently, the relationship between community resilience and social capital is brought forward as means to guide practice. Given that the literature on resilience is extensive, this thesis will help to generate a tool that can be easily accessed by city planners, emergency managers and community leaders. This tool will help stakeholders to determine what can be done to promote resilience in their communities. The remainder of this chapter will discuss the concept of resilience, the most common characteristics in definitions of resilience, and the varying levels of resilience. Then the research questions, methodology and limitations of the research will be introduced.

B. Literature Review

Pursuing resilience building policies without working with a common understanding of resilience has led to policy failure. To explore the attributes of community resilience, and the role that social capital plays in the development of community resilience, one must begin by reviewing the working definitions of resilience in order to obtain conceptual clarity. This section will be divided into four sub-sections. The first sub-section will define resilience, explore the history of the term, and identify four themes contained in the literature: anticipation, adaptation/flexibility, absorption, and bouncing back/forward. The second sub-section will explore the meaning of resilience

across different levels of analyses; individual, organizational, community and systems. The final part will summarize these bodies of literature in order to situate the focus and purpose of the proposed research. The rest of this thesis will proceed to explore community resilience as ideally situated to promote disaster resilience policy through social capital as not only a complementary concept but a vehicle to promote bottom-up action and locally embedded community resources.

C. The Concept of Resilience

The first academic studies that made use of the word resilience did so from an ecological perspective. C. S. Holling (1973) outlined how altering views of behavior within ecological systems can create different approaches to the management of resources. Because of his work, the notion of resilience became well accepted within the field of ecology (Bhamra, Dani & Burnard, 2011, p. 5354). Since the early 1990's, resilience has also gained prominence in other fields. For instance, in the organizational literature, resilience is seen to be a response to complex environments. This arose out of the need for organizations to develop the means to anticipate and handle disruptive situations. Essentially the argument is that a resilient system can handle larger disturbances, further connecting resilience with the notion of survival (Boin, Comfort & Demchak, 2010, p. 15).

One barrier to the development of a common definition of resilience is that different disciplines have adopted their own use of the word. Further, within each field, one can distinguish between resilience as a desired individual characteristic versus a desired groups or systems characteristic. Because resilience is an interdisciplinary and

multifaceted concept (Bhamra et al., 2011, p. 5378), the differing perspectives must be outlined to understand the complexity of the issue at stake. For instance, from a psychological perspective, resilience is defined as "a capability of an individual to face life with adversity, trauma, tragedy, and even positive events, progresses, and responsibility. It enables individuals to try more and persist for achieving success" (Memari, Valikhani, Aghababee, & Davali, 2013, p. 573). According to this perspective, resilience incorporates an emphasis on adaption to one's environment (Luthar & Brown, 2007). Those who study ecological systems see resilience as more of a concept that includes elements such as not only adapting, but absorbing changes in the system and incorporate the disruption (Folke, 2006). Despite these differences in definition, discussions about resilience share some commonalties. The next section of this literature review will outline some of the primary characteristics found in definitions of resilience.

D. The Characteristics of Resilience

The following sub-sections describe the most common characteristics present in contemporary discussions about resilience. These discussions identify what it means to be resilient. The common characteristics are: anticipation, adaptation/flexibility, absorption, and bouncing back/forward to a more favorable state than prior to the disruption.

1. Anticipation

One of the first scholars to apply the concept of resilience to the social sciences was Aaron B. Wildavsky. In his book, *Searching for Safety*, Wildavsky (1998) described resilience as a solution for the mitigation of risk. He often contrasted resilience with the

strategic anticipation of uncertain events. Others have echoed the belief that resilience is about the prevention of adverse events and the ability to recover from a crisis (Boin et al., 2010, p. 21). In a disaster management context, Kapucu, Hawkins, and Rivera (2013, p. 218) refer to the importance of anticipating crises by engaging in community preparedness. In this sense, anticipation involves assessing the kinds of events that are likely to occur, for example, by surveying weather patterns, historical accounts, or gathering advice from experts. Likewise, anticipating the vulnerabilities of a social system can often help decision makers to predict the type of extreme events that might occur.

Other scholars consider resilience to be a continuous process of anticipation. For example, Hamel and Välikangas (2003, p. 53) assert that strategic resilience is not about responding to a crisis, it is about developing "the capacity to change before a crisis changes you." Those who emphasize anticipation as one of the more important aspects of resilience subscribe to the notion that the anticipation of crises is possible because humans are capable of foresight and thus through the observation of patterns we are able to develop theories about the future. While some may argue that the anticipation of high-risk situations is a key element of resilience, others see the role of resilience as necessary for situations that cannot be predicted. This perspective is followed by those who subscribe to "high-reliability theory" (Kantur & Iseri-Say, 2012). According to this logic, high-reliability organizations find a balance between anticipation and the ability to adapt under uncertain conditions (Kantur & Iseri-Say, 2012).

2. Adaptation / Flexibility

The concept of resilience involves the constant maintenance of practices and processes. The ability to adapt is most often referenced in terms of an entity responding to changes in the external environment. The most extensive definition of resilience in the form of adaptation is presented from an ecological perspective:

> Managing for resilience consists of actively maintaining a diversity of functions and homeostatic feedbacks, steering systems away from thresholds of potential concern, increasing the ability of the system to maintain structuring processes and feedbacks under a wide range of conditions, and increasing the capacity of a system to cope with change through learning and adaptation (Allen et al., 2011, p. 377).

Here, the concept of learning is used in conjunction with adaptation, which is appropriate given there are few clues on how to become adaptable. This idea is mirrored by Galaz (2005, p. 567), who argues that the process of learning is connected to resilience in terms of adaptive change. He blends the notion of anticipation and adaptation by arguing that learning is essential in building the capacity to resist disturbances.

While many companies and organizations have expressed the importance of maintaining flexibility, "resilience is more than just a fancy word for adapting your organization to [the] environment" (Mallak, 1998, p. 8). In an organizational context, Hamel and Välikangas (2003, p. 55) suggest that resilience is the ability to adapt the core components of an organization through innovation with respect to organizational values. However, one could expand on this notion by describing adaptability as the "organizational capacity to redefine underlying character in response to large-scale change" (Denison & Mishra, 1995, p. 215). This sort of behavior enhances the resilience of an entity and perpetuates the positive reconstruction of values needed during emergency situations.

Looking at resilience from an engineering standpoint, Horne and Orr (1997) suggest that resilience is associated with the strength of elements and their ability to bend and flex. According to this logic, resilience means adaptability, or an element of elasticity, that allows and promotes swift changes as a response to new demands (Fiksel, 2003, p. 5333). While adaption and the ability to flex in response to changes in one's environment is prevalent in resilience definitions, the process of absorbing a crisis, is also a signature component of discussions surrounding resilience.

3. Absorption

The process of absorbing a crisis or disruptive event is perhaps one of the more innovative elements found in resilience literature. In this context, absorption involves incorporating the disruption into the processes and structures already in place, as opposed to avoiding and shielding the crisis (Boin et al., 2010, p. 14). Still, scholars who write about resilience as absorption often fail to define what exactly they mean by their use of the term. For example, Walker and Salt (2006) interpret resilience as the ability to absorb disturbances whilst retaining basic function and structure in the face of adversity. Similarly, Gunderson (2000, p. 426) believes that resilience is characterized by "the magnitude of disturbance that a system can absorb before its structure is redefined by changing the variables and processes that control behavior." Although to integrate problems that arise into existing structures, there must also be means for creating diverse mechanisms for handling the unexpected (Adger, Hughes, Folke, Carpenter & Rockstrom, 2005, p. 1036).

Often times, the recommendation for attaining resilience is similar to processes of

learning and adaptation, but can be presented or described as the continuous reconstruction of existing norms, practices and structures (Hamel & Välikangas, 2003, p. 55). It is not clear whether this is a process that naturally occurs, or if steps can be taken to actively bolster resilience. While the absorption of crises is linked to structural maintenance, the notion of resilience is also closely related to concept of "bouncing back." Returning to a former state post crisis is perhaps the most characteristic attribute of resilience definitions.

4. Bouncing Back / Bouncing Forward

Bouncing back refers to the ability of an element to return to a stable state after a disruption (Bhamra et al., 2011, p. 5376). Definitions of resilience that explore the notion of bouncing back are split into two camps, one emphasizing the rapid return to a prior state of equilibrium (Bodin & Wiman, 2007, p. 541), while others believe the speed is not as important as the *ability* to bounce back (Holling, 1973, p. 14). Bouncing back is mirrored in Hamel and Välikangas (2003, p. 54) concept of "zero trauma," where a period of prolonged reversal is avoided after a spell of "paradigm busting turbulence." However, this notion ushers in questions regarding how to measure trauma and gauge if an entity has indeed "bounced back" and returned to a prior state of equilibrium in terms of experiencing "zero trauma."

Bouncing forward is another key element of resilience, which includes the process of learning from and exploiting a crisis for positive development. Perhaps this notion is best explained by Dufresne and Clair (2008, p. 209) in their description of "hyper-resilient organizations" as entities that believe that, "organizational crises, however, offer an

impetus, a necessity, and an opportunity to change deeply engrained structures in ways that would not have been possible otherwise." Adger et al. (2005, p. 1036) use a more ecological definition of resilience to include the idea of incorporating diverse mechanisms for learning from and changing as a result of unexpected shocks. Ecological resilience is firmly rooted in the standpoint that there is no such thing as a "stable state," therefore no exact state to "bounce back" towards. Likewise, Briske, Bestelmeyer, Stringham and Shaver (2008, p. 359) describe resilience as the amount of pressure a system can handle until they have to assume an alternative state. Here, the element of choice takes into account the fact that some systems bounce forward because they need to and others do so because they must. In the context of community resilience, bouncing forward would entail communities learning from the event and changing fundamental functions of community life to better prepare for the next disturbance.

E. The Levels of Resilience

Further complicating the scholarly work about resilience is the differing contexts in which resilience can be developed. Resilience, as a concept, can be explored from different levels of analyses including: individuals, organizations, communities and systems. The following sub-sections will discuss resilience as it relates to each level of analysis.

1. Individual Resilience

At the individual level, discussions about resilience often focus on the ability of individuals to prevail despite encountering trauma. Out of the four characteristics of

resilience, individual resilience tends to emphasize adaptability. In terms of disaster management, Reich (2006) observes that psychological responses to natural disasters involves more than the biological need for survival. As such, resilience in a psychological sense involves control, coherence, and connectedness. He argues that, to effectively manage a disaster, one must consider what makes individuals resilient in the face of uncertainty.

Furthermore, as discussed by Walsh (2007), studies have documented the fact that individuals become resilient as a result of a traumatic experience. This may be, because of newfound abilities, compassion for others, acknowledging priorities, or finding a spiritual connection of some kind. Moreover, individual resilience does not exist in a vacuum. Agani, Landau and Agani (2010) also emphasize the importance of community networks and resources available to individuals who struggle to cope with extreme pressures. These resources can be a local church or a non-profit organization that works in the community to help individuals overcome the stresses caused by a disaster (Walsh, 2007).

2. Organizational Resilience

When organizations exercise resilience, they are able to endure stress while maintaining the same identity and function, thus able to absorb changes that threaten the structure of the organization. Discussions about organizational resilience tend to encompass all the characteristics of resilience. At this level of analysis, it is important to examine the internal and external workings of an organization. This is because organizational resilience involves how an organization interacts with it's external environment. For an example, Fu and Tang (2013) suggest that collaboration between

organizational entities can bolster the resilience of an organization. Looking internally, they suggest that strong leadership can create a resilient organization, because leaders create policies that guide all future activities of the organization. However, they extend this notion by placing focus not only on the leadership, but also, the core employees. Lengnick-Hall, Beck and Lengnick-Hall (2011) also consider the development of human resource capacities to be essential to the building of a resilient organization. This perspective is based on the idea that a resilient organization is built on the resilience of the individuals that make up the organization.

3. Community Resilience

Community resilience offers a unique platform where insights from individual, organizational and systemic resilience are seen to play crucial roles. Ainuddin and Routray's (2012) index to measure community resilience incorporates elements of absorbing disruptions and bouncing back to a preferable state. In their research, they conclude that community resilience is a sum of institutional and physical strength of infrastructure, economic indicators, community awareness, preparedness, and social capital. Disasters, like communities, occur across jurisdictions and political borders, therefore social infrastructures and community connectedness play a large role in helping people's lives return to normalcy after a disruptive event.

Similar to the overall concept of resilience, authors who examine community resilience also have not agreed on what constitutes the core elements of the concept. For instance, Lengnick-Hall et al. (2011), Walsh (2007), Agani et al. (2010) believe that the connectedness of individuals in a community is an important vehicle for building

resilience. Alternatively, taking an institutional perspective, Fitzpatrick and Molloy (2014) advocate that the key to community resilience is bolstering the capabilities of local non-profit organizations. Other authors, such as Andrews (2012), place more emphasis on communities actively anticipating the kinds of disastrous events they might face and engaging in preparedness activities. While there are many different perspectives, Moore, Chandra and Feeney (2013) put forth that (while every disaster is different), there are common elements to community resilience that can be applied across diverse contexts. From their perspective, community resilience can be developed though community education, empowerment, practice, strength of social networks and the provision of local services.

4. System Resilience

From a systems perspective, resilience can be found in numerous environments. These systems can range from ecological such as plants and animals to social-ecological such as urban or other man-made systems. According to Peterson, Allen and Holling (1998, p. 10) ecological resilience is "a measure of the amount of change or disruption that is required to transform a system from being maintained by one set of mutually reinforcing processes and structures to a different set of processes and structures." Likewise, Pickett, McGrath, Cadenasso and Felson (2014) see ecological resilience as the capacity to adjust to external changes and shocks.

Similarly, elements of ecological resilience can be applied to industrial systems such as information and transportation networks. In these kinds of systems, resilience is more about how soon the unit will return to normal operations after a disruptive event. For

example, Adams, Bekkem, and Toledo-Durán (2012) discuss the resilience of freight transportation networks. To them, resilience means that the system should quickly absorb a disturbance and return to normal operating levels.

F. Challenges

According to Luthar, Cicchetti, and Becker (2000, p. 543), the main issues surrounding the construct of resilience can be placed in four categories. The first relates to ambiguities among the varying definitions of resilience. The second category pertains to inter-domain functioning of the term resilience, for example, as the concept has been applied to fields varying from psychology, engineering to ecology. Thirdly, the phenomenon of resilience is inherently unstable, as the sample size of each inquiry varies significantly. The last conceptual issue is the utility of resilience in terms of scientific inquiry, provided that there are no common modes of operationalization. These issues have led some to question if resilience even exists outside of a metaphor for a desired state (Bhamra et al., 2011, p. 5389). If these theoretical and practical implications can be resolved, the concept of resilience would provide policy-makers and community leaders a lens through which they can analyze and facilitate effective change, whether at the level of the individual, organization, community or system. Fortunately, research has shown there is potential for advanced research in the realm of resilience studies (Bhamra et al., 2011, p. 5388).

G. RESEARCH QUESTIONS

Now that a conceptual foundation on the topic of resilience has been presented, this thesis will continue to narrow the concept of resilience and explore the meaning of community resilience and social capital within the context of disaster management. Community resilience is a promising realm in the study of resilience because as indicated by the Sendai Framework, the Hyogo Framework failed to advocate for the importance of bottom-up and local level action, and therefore was unsuccessful at reaching many stated objectives (The United Nations Office for Disaster Risk Reduction, 2015). Despite the growing evidence, research on the concept of resilience has yet to embrace the concept of social capital as a vital component of the community resilience equation, and as the key to promoting local level policies (Aldrich & Meyer, 2015, p. 256). Because the topic of community resilience involves multiple stakeholders and many different levels of governance, this study will focus on the fundamental aspects of community resilience and the role of social infrastructures. To this end, this thesis will address four research questions:

R1: What is community resilience?

R2: What is social capital?

R3: What role does social capital play in building the resilience of communities?

R4: What are some practical steps communities can take to become more resilient to hazards?

H. METHODS

This research will involve an explanatory review of literature on the topic of community resilience within the context of disaster management. A literature review can take many different forms, however an explanatory literature review summarizes the key findings and issues present within a body of scholarly work (Hart, 1998, p. 47**)**. According to Holland (2007, p. 181), "a literature review is an essential methodological step in establishing what we already know from existing social, economic and political research about distributional impacts of policy decisions." Further, he sees the literature review as an important tool needed to make any policy decision. The proposed research will investigate the elements of community resilience and social capital with respect to natural and humanitarian disasters.

The articles used to complete the literature review were collected from the American University of Beirut's online databases. Using the Web of Science, relevant articles will be identified using searches for the words "resilience," "disaster resilience," "community resilience," "resilient communities," and "social capital" in the keyword, subject or title categories. Articles published after the year of 1999 will be treated with higher weight, as that is when the word "resilience" began to enter the field of disaster management. Once relevant articles are identified, their citations and PDF will be saved within a citation management database. Once the core set of articles are identified, I will read the articles, and summarize their main points with respect to the research questions. Then I will take detailed notes of each article, which will be used to create a literature map that will help me to answer the research questions.

H. LIMITATIONS OF RESEARCH

This thesis has three limitations. First, it will examine material that is contained in the American University of Beirut (AUB) online library system, specifically the electronic journal database. Consequently, this means that the literature review will not cover published materials such as books and newspaper articles, many of which are not currently available through the AUB library system. Second, as stated above, this thesis will prioritize articles published after 1999. Ten articles published between 1993-1999 will be used to understand the theoretical foundation of the concept of resilience. Third, this will not be a comprehensive review of the literature surrounding the concept of resilience, as this research pertains to communities and social capital as key concepts following the Sendai Framework.

J. Summary

According to Hamel and Välikangas (2003, p. 52) "the world is becoming turbulent faster than organizations are becoming resilient." If institutions do not embrace resilience, they will risk losing legitimacy in their practices and pursuit to positively affect the external environment. Yet, as indicated in the previous section, there is no agreed upon definition of resilience. This is because each discipline has adopted their own interpretation of the term. As a result, there are theoretical issues surrounding the concept of resilience, which clouds clarity and even practical relevance. However, as the preceding discussion has shown, there are essentially four elements that are most commonly found in definitions of resilience. These characteristics are anticipation, adaptability/flexibility, absorption, and bouncing back/forward. Additionally, the concept of resilience can be

applied to different contextual frames of reference, such as on an individual, organizational, communal, and systemic level. Because of the varying dimensions and perspectives on the concept of resilience, those responsible for the development of resilience would benefit from a review of the literature, which will be the focus of this thesis. The conceptual framework of this thesis will be guided by identifying the main shortcomings from previous disaster management paradigms, which targeted national frameworks and placed too much focus on the response period of a disaster. The author argues that such misguided policy can be re-directed by targeting communities and enhancing the capacities of community members in terms of social capital creation as means to dedicate resources to the period before disasters.

CHAPTER II
COMMUNITY RESILIENCE

A. Introduction

The shift in focus to community represents a paradigm shift in the field of disaster management (McEntire et al., 2011). From this perspective, economic and social resources are the foundation of community resilience. Communities play a key role in the disaster cycle because they have access to local resources and equipment, have knowledge of troubled areas and whereabouts of vulnerable residents, and most notably, are the first to respond and alert emergency services of problems (Andrew, 2012, p. 63). Because of this, in the past two decades, scholars and practitioners alike have turned to the emphasis on community as a critical arena for addressing social issues (Chaskin, 2007, p. 65). Further, the notion of communities taking on a larger role in the disaster management process is in response to the effort to break top-down cycles of emergency management that treats those affected by disasters as victims instead of possible active community agents that are capable of positive contribution to the disaster process (Murphy, 2007, p. 298). By making communities more robust with the development of vital human and financial resources, people can be better positioned to handle environmental and man-made disturbances to daily life.

Community resilience and social capital are parallel concepts in terms of the pursuit to integrate the complexity of place-based solutions into the field of disaster management (Cox & Perry, 2011, p. 395). To further understand the relationship between the two concepts, community resilience and social capital must be examined on an

individual basis as a method to ensure clarity and situate the findings. As outlined in the Sendai Framework, resilience building initiatives must place high importance on local-level management (United Nations Office of Disaster Risk Reduction, 2015). Communities are an ideal setting to understand the concept of disaster resilience and state-sponsored activities aimed at bolstering resilience. Because of this belief, communities have emerged as the focal point of disaster management policies. Lessons from large-scale disasters such as Hurricane Katrina have proved that there is an urgent need to involve communities in the disaster management process (LaLone, 2012, p. 210). The shift of focus to communities is a direct response to the growing understanding that social and ecological systems are inseparable. Further, "the rate and magnitude of global changes calls for communities now more than ever to invest in resilience against future threats" (Amundsen, 2012, p. 1). There is an urgent need to reform disaster management strategies to put those affected at the center of the process. This urgency is reflected in Albrito's (2012, p. 292) finding that the risk of economic loss in OECD countries is growing faster than GDP per capita, thus, the risk of losing valuable resources is developing faster than the creation of wealth. The following sections will cover the topics of disaster policy, the characteristics of community resilience, indicators to measure the concept, different perspectives on means to enhance community resilience, the role of non-profit organizations, the need to find context specific solutions, and theoretical and practical challenges faced.

B. Disaster Policy

The push for community-centered approaches is now coming from governments around the world. The United States, Great Britain, Australia, and New Zealand have all either established community resilience-building initiatives or have changed their disaster rhetoric to include resilience and communities. Fan (2015, p. 25) believes this is the case because governments are increasingly becoming aware that they alone cannot bear the responsibility for building the capacity to cope with disasters in communities before and after disasters. In her opinion, this transition reflects broader trends representing the shift from government to governance, where governments have come to realize the potential of engaging networks of community stakeholders. For example, the Australian government made it possible for non-governmental organizations to apply for funds from the National Disaster Resilience Program in 2014. This was in effort to create more locally derived knowledge and utilize pre-existing networks (Acosta et al., 2013). While these step are in the right direction, the efforts need to be supplemented with a theoretical framework that understands the meaning and main characteristics of resilience, or there is a risk of having misguided and ineffective policy.

C. Defining Community Resilience

While the concept of resilience is not a recent phenomenon in the literature, the application of resilience-based theories in the field of disaster management is fairly new, as over 80% of the literature created on the concept of resilience was published after 2007 (Chandra, Williams, Plough, Stayton, Wells, Horta & Tang, 2013, p. 604). Despite this recent surge in interest, in the literature surrounding community resilience, there is no

commonly agreed upon definition. Often times, the varying definitions of community resilience refer to different stages of the disaster cycle. Some definitions entail what state a community should be in before a disaster strikes, while others refer to how resilient communities should behave during a disaster, or determine community resilience by assessing the state of a community after a disaster. Ainuddin and Routray (2012, p. 911) interpret community resilience as a community's ability to respond to a disaster, absorb and cope with the impacts and ultimately bounce back to a state enjoyed prior to the disruption. Similarly Norris, Stevens, Pfefferbaum, Wyche, and Pfefferbaum (2008, p. 127) refer to a post-disaster context in their definition of community resilience, yet include the element of linking adaptive capacities with the goal of creating a positive trajectory of functioning.

Other authors define community resilience as solely dependent on community-based resources, both financial and human, while others still advocate for government-based resources to still play a priority role. However, there is an underlying theme in definitions of community resilience that emphasize the importance of using locally derived resources. Paton and Johnston (2001) believe that communities are resilient if they have the capacity to effectively deploy resources and draw upon internal strengths in the face of disasters. Yet, some authors insist that the role of government should not be excluded from the community resilience equation. This is echoed in Andrew's (2012, p. 63) research about communities facing problems with flooding in the United Kingdom. He deduces that community resilience is about communities harnessing local resources and expertise from community members who come to their own devices during an emergency, yet in a manner that compliments a traditional government response. Stark and Taylor

(2014, p. 692) also refer to government assistance as an aspect of community resilience by articulating community resilience as a synthesis of local actors and government resources working in unison to obtain crisis management objectives. Nevertheless, the literature is divided, with some authors advocating that community resilience involves the ability of communities to help themselves without external assistance (Bowles & Gintis, 2015), while others state that government assistance is still needed despite community strength and resources (Stark & Taylor, 2014; Andrew, 2012).

When communities are given more agency, they are able to engage in active decision-making. In the literature, this is expressed as "self-organization," and authors such as Lebel, Andries, Campbell, Folke, Hatfield-Dodds, Hughes and Wilson (2006, p. 6) contend that any definition of community resilience must include mechanisms for communities to self-organize in a way that simultaneously maintains and re-creates their identity in the face of adversity. Folke (2006, p. 253) also refers to resilience in terms of the ability to self-organize, suggesting that in a resilient social–ecological system an event has the potential to create positive change, as the disturbance itself exposes problem areas, and people have the opportunity to create innovative ways to facilitate development in their communities.

D. Characteristics of Community Resilience

The notions of community participation and citizen empowerment underline the pursuit to strengthen communities to combat adverse natural events. Because the concept of community resilience emphasizes a bottom-up management approach, in this model, citizens are expected to get involved in community affairs, during times of normalcy and

in emergency situations. The literature surrounding community resilience emphasizes that citizens must take action, whilst simultaneously advocate for governments to de-centralize and create mechanisms for citizens to take on more responsibility (Rivera & Nickels, 2014). On the contrast, Barishansky and Mazurek (2012, p. 3) support a larger role of government in terms of public participation, by advocating that state sponsored entities should lead the pursuit to empower communities through providing opportunities to gain the knowledge and skills needed to help themselves during crises. Nevertheless, tension exists around the concept of community resilience on where citizens should lay on the spectrum between bottom-up citizen activism and the top-down dispersal of responsibility

Scholars such as Anh, Phong, and Mulenga (2014) believe that community resilience can be acquired through community consultation, meaning placing a high emphasis on the participation of those affected by development policies. They emphasize that community consultation is not a new topic, but the success of such endeavors still proves to be a challenge. Holding community meetings with stakeholders is not enough, communities must be actively involved in the decision-making process. Alike, Stark and Taylor (2014, p. 302) focus on citizen participation as a key element of community resilience, because community resilience initiatives often fail due to the lack of departure from state-centered approaches.

E. Indictors of Community Resilience

Aside from the main themes surrounding community resilience, some scholars have developed indicators to assess the resilience of a community and guide community resilience-building efforts. One of the most expansive set of indicators for community

resilience was created by Ainuddin and Routray (2012) in their research about community resilience in earthquake prone Baluchistan. They divide capacities into the categories of institutional resilience, physical resilience, social resilience, and financial resilience. To Ainuddin and Routray (2012), institutional resilience has to do with income and the percentage of people living over the poverty line, the percentage of people with mitigation insurance, the presence of municipal fire, emergency and medical services, and awareness building in the form of education and mock drills. The importance of community services is also emphasized by Breton (2001), who believes that community resilience relies on the presence of the following services: health, social, educational, spiritual, financial, police, fire, recreation, and sundry services such as laudromats and barbershops. Adding to the literature about physical resources, Ainuddin and Routray's (2012, p. 29) second indictor, physical resilience also includes institutional resilience with reference to shelter capacity, percentage of vacant real estate, age of homes, percentage of housing following building guidelines, location of home, and the amount of housing units located in the core of a city.

Social resilience is also discussed in the literature as means to gauge and bolster community resilience. Ainuddin and Routray (2012) believe one can measure community resilience partly through the analysis of the percentage of people with high school or above education, the age of a population in terms of percentage of people less than sixty and over the age of fifteen, and the number of people among the population with special needs such as the disabled, the elderly, pregnant women and children. Chen, Wu and Wu, (2009, p. 293) also discuss how a higher proportion of aging citizens affects community disaster resilience, due to the difficulty elderly residents face in returning to a normal state after a disaster. Amundsen (2012) voices similar sentiment in his research about a village

in northern Norway that lost it's main source of employment, which resulted in the average age of the village residents to rise as young families were forced to move to urban areas to look for employment, thus negatively affecting the community's ability to be resilient in the face of disaster.

Aside from demographic considerations, Amundsen (2012) emphasizes the importance of people to people connections, community networks, and community resources. Ainuddin and Routray (2012) also include the concept of social capital in their measure of social resilience, they associate social capital with community trust during disasters. Similarly, Kapucu et al. (2013) emphasize the importance of the role of social capital to boost a community's resilience against disasters, and in their point of view this can be acquired through increased communication flows between people.

The fourth element to Ainuddin and Routray's (2012) indictors for community resilience is economic resilience. In their view, this is determined by the percentage of community members who own their own homes, and the percentage of families with multiple sources of income. Kapucu et al. (2013) equates similar importance to the role of the distribution of economic resources in a community, whereas Lebel et al. (2006) interprets the concept as financial adaptability, the ability to diversify to meet the economic climate and market demands.

F. Differing Perspectives on How to Bolster Community Resilience

In addition to the differing indicators that can be used to measure the extent of a community's resilience, and guide community resilience building efforts, they are various perspectives on how communities become can resilient to hazards. Most scholars do not

seek to create all-encompassing arguments for how to bolster community resilience. Rather, they highlight single aspects in the larger resilience-building equation. For example, Khalafzai and Nirupama (2011), Mulyasari and Shaw (2013), and Larance (2001) write about the importance of women leading the efforts for their communities to become more resilient against natural hazards. Mulyasari and Shaw (2013, p. 2137) and Larance (2001, p. 8) show how social networks of women can act as a platform that enables them to positively affect the public sphere beyond their normal domestic duties in the private sphere. Because women play integral roles in raising children and taking care of vulnerable family members, they contend that women play a large role in enhancing community resilience. Khalafzai and Nirupama's (2011) research also reflects the perspective that expanding social-economic opportunities for women positively contributes to building community resilience. In their case, when women took part in career building programs and acquired computer and IT skills, through their economic independence they, along with their families were in turn more resilient. Khalafzai and Nirupama1 (2011) argue that today's economic climate is knowledge-based and therefore the world's lesser advantaged populous will need increased educational opportunities. Such opportunities can be provided by non-profit organizations as they play an incremental role in enhancing the socio-economic capabilities of under-served populations, as well as ushering in community-wide positive change.

G. The Role of Non-Profit Organizations

Non-profit organizations play a vital role in helping communities become stronger in the period before, during, and after a disaster. Acosta et al. (2013, p. 348) argue that all

governments which have recently experienced natural disasters have underscored the integral role of non-profit resources in helping support emergency preparedness, response and recovery. These resources can range from volunteers, equipment, facilities to valuable community data. Non-profit organizations also have readily available human and financial resources that can serve an important role in times of crisis. In the aftermath of a crisis, a hectic and fast-paced environment ensues, and the fact that many community organizations have a legal mandate to deliver services to special needs populations and accept donations is extremely important to reaching vulnerable populations swiftly whilst maintaining ethical practices in disaster areas. Unlike spontaneous volunteers in disaster zones, volunteers already serving in the community have received orientations, trainings, and undergone background checks. It is also important to note that community organizations in many instances have already established working relationships with private sector entities and other non-profits that can be cultivated during times of crisis.

Veil and Bishop (2014) contribute to the literature by showing that for communities to utilize all available resources, they need to expand their use of community organizations that are not considered traditional disaster management resources, such as libraries. They argue that the image of a library as a quiet place to read and check out books is outdated, as libraries have served integral roles in recent large-scale disasters. The authors report that in New Orleans after Hurricane Katrina, one library helped 45,000 people fill out Federal Emergency Management Association (FEMA) applications and insurance forms for disaster assistance, because all FEMA applications are now processed electronically (Veil & Bishop, 2014, p. 723). After natural disasters, a loss in electricity, communication devices, and wireless internet connection creates a situation where people

cannot communicate with the authorities assigned to provide assistance. In this scenario, librarians played a large role in helping people fill out their applications who lacked not only access to computers, but lacked basic computer skills. Even in times of normalcy, community libraries are usually the only source of a free wireless internet connection. Further, Veil and Bishop (2014) observed that during Hurricane Katrina libraries served as a meeting point for families, officials and emergency managers. It was also a place where people congregated to receive public information, and charge electronic devices. Moreover, the authors argue that libraries can serve the following purposes in the quest to bolster community resilience; institutional supporters, collection managers, information disseminators, internal planners, community supporters, government partners, educators and trainers, and information builders. After crises, non-profit organizations can better serve people by taking specific cultural contexts into account.

H. Context Specific Solutions

In addition to the use of non-traditional resources in the realm of disaster management, there is also a great need to ensure that each strategy aimed at bolstering resilience takes context specific arrangements into account. Agani et al. (2010, p. 143-145) advocate that increased ties to family and culture help foster community resilience. Basing their findings off of transitional family theory, the authors conclude that in post-war Kosovo, often times non-profit organizations were unsuccessful in filling in gaps in services, due to their inability to take familial and cultural considerations into account. In their research they found that familial and cultural "links allows the tradition, strength, pride, and privacy of the community to remain intact and draws on group resilience, while

respecting the community's capacity for healthy change and survival" (Agani et al., 2010, p. 145). The rationale is that when people are increasingly connected to other family members and their cultural identity, they are less likely to take risks that have adverse effects on their well-being.

Agani et al. (2010) advocates that increased family and cultural ties most often occur when there is frequent communication and interaction between family members. Houston, Spialek, Cox, Greenwood, and First (2015) also emphasize the importance of communication by proposing a model that places communication at the center of community resilience building efforts. The authors examine community resilience through the lens of the impact communication has on the concept and calls for increased attention to the topic of community resilience on behalf of communications scholars. Communication fosters relationships between members of communities and thus fosters increased feelings of belongingness, and facilitates the construction of knowledge to achieve goals (Houston et al., 2015, p. 273).

I. Challenges

Some scholars have not been as optimistic about government-led efforts to build community resilience. Joseph (2013, p. 287) believes that governments are favoring the shift from government obligation to community responsibility in an effort to divulge accountability for disaster management. Bulley (2013, p. 265) also agrees that governments withdrawing from the disaster management agenda is problematic. Further, because communities are not necessarily legal constructs, there are issues with governments being able to establish professional relationships with such entities (Fan,

2015). Barrios (2014) also points out that communities are not static, they continue to change and morph, especially during the periods before, during and after a disaster. He also believes that in the British context, government-led resilience initiatives are less about bolstering community resilience and more about controlling, managing, governing, and producing the concept of community.

There are also many larger societal issues that communities experience that are to some extent beyond their control. Chaskin (2007) argues that problems communities face such as poverty, inequality and discrimination are not generated or produced at the local level, and thus threaten the concept of community resilience. Other issues that are generated outside communities and threaten local and communal activism are privatization, de-regulation, and liberalization because often times profits get placed at a higher importance than community well-being (Carpenter, 2012).

J. Conclusion

The shift in focus to communities represents pivotal change in the field of disaster management. Communities are well positioned to absorb resilience policies because community members have invested interest in the state of their surroundings. As international and national policies have recognized this shift; scholars, practitioners, and politicians have created and implemented resilience-building policies without agreeing on a working definition of resilience. Despite this lack of consensus, a review of the literature finds that community resilience definitions place an overwhelming emphasis on the promotion of community advancement from the bottom-up, utilizing local knowledge, citizen participation, community consultation, and creating innovative governance

arrangements. In terms of measuring community resilience, scholars have created numerous sets of indicators and presented differing perspectives on how to guide research and practice. Common indicators often include the institutional, physical, social and financial resilience of communities. Additionally, non-profit organizations in communities play a large role in bolstering the resilience of communities. These entities can better serve their beneficiaries and further the resilience capabilities of communities if they seek to find context-specific solutions. Studies have found that individuals affected by disaster tend to cope better if they view themselves as a part of an empowered and competent community versus victims solely relying on external help. The concept of community resilience seeks to mobilize community members by focusing on their strengths and skills, which in the past has been a wasted valuable resource. Research on the field of community resilience is evolving. There is promising evidence that communities with a strong social infrastructure can work to minimize the impact of disastrous events and build resilience for the future. While the concept of community resilience has seen momentum in the form of increased scholarly attention and community/government initiatives alike, there are still many theoretical and practical barriers to overcome. Governments need to find appropriate governance arrangements to share the responsibility of managing public affairs. The concept of community resilience has the potential to energize the field of disaster management and set the pace for forward momentum.

CHAPTER III
SOCIAL CAPITAL

A. Introduction

Promoting the creation of social capital in communities increases the likelihood of sustained community cohesiveness after a disaster because the resources provide encouragement for recovery efforts. Social capital can be a mechanism of 'informal insurance' that helps to create more opportunities to receive disaster assistance related to help from neighbors, family and friends during times of need (Tierney, 2013, p. 3). Yet, despite growing evidence of the important role of social capital in resilience research, few scholars or practitioners embrace social capital as a critical component of community resilience (Aldrich & Meyer, 2015, p. 256). The following sections will introduce the differing perspectives found in definitions of social capital, common conceptual attributes, and a theoretical foundation.

The concept of social capital began to receive scholarly attention in the mid 1990's, when Robert Putnam began to write about the noticeable decline in social capital in the United States. He reported that in other countries, societies had developed a form of network capitalism, meaning that networks and social connections help create reciprocal attitudes that in turn had positive benefits for the economy. In northern Italy, he found that newspaper readership, football clubs, and the presence of choral societies, were all indicators of the socioeconomic success of a region. Putnam (1995) places importance on the connection between social capital and volunteerism, as he advocates that increased numbers of people engaging in community volunteerism represents one of the main ways

social capital is created. His writings ignited a debate about the social connectedness of communities in the United States and around the world, some viewing his proclaimed benefits of social capital as exaggerated, and others who agreed with him and deemed the noticeable decline in community spirit as problematic (Putnam, 1995, p. 2). Nonetheless, the concept of social capital appears in many different scholarly recommendations on how to enhance the resilience of communities. To fully understand how social capital can help communities confront strife, one must explore the varying definitions, main characteristics, and how the concept is perceived in differing contexts.

B. Defining Social Capital

Similar to the concept of resilience, there is no common agreed upon definition of social capital or widespread consensus on recommendations to enhance social capital. Aldrich and Meyer (2015, p. 256) define social capital as "the aggregate of actual or potential resources that are linked to possession of a durable network of more or less institutionalized relationship of mutual acquaintance or recognition." Putnam (1995, p. 67) defines the concept as one that represents features of social organization such as norms and trust that promote cooperation. There is more consensus on the different domains in which the facilitation of social capital can occur: bonding, bridging and linking (Aldrich & Meyer, 2015, p. 258). Bonding is the socialization that occurs between people that are related to one another, bridging refers to the connections established between people of different backgrounds, and linking acknowledges the importance of regular citizens connecting with decision-makers.

The literature is divided between authors that explore social capital through the lens of network understandings, in terms of the relationships and connections between individuals, and authors who emphasize more communitarian aspects of social capital that place importance on trust, cooperation and reciprocity between groups of people (Alaimo et al., 2010 p. 498). Coffé (2008) describes this divide as being one of social capital as a concept composed of structures such as networks, versus social capital as a more cultural and attitudinal concept that involves community norms. Nevertheless, most definitions of social capital contain the underlying themes of social cohesion.

Larance (2001) and Putnam (1995) place importance on how a foundation of social capital begins with increased interaction between individuals. Within this framework, various definitions emphasize different elements such as the importance of increased interaction between community members, while others emphasize how social capital can lead to the creation of resources. Aldrich and Meyer (2015, p. 256) favor a more blended approach by claiming that social capital is the accumulation of actual and potential resources gleaned from a durable network of casual relationships characterized by mutual acquaintance or recognition. Whereas Grootaert, Oh and Swamy (2002) take a more formal approach and interpret social capital as a concept that is defined by shared norms, networks, and organizations that enable people to gain access to power and resources, and more direct channels of decision making and policy formulation.

C. Measuring Social Capital

The National Social Capital Benchmark Survey, created by Harvard University, is the largest and most commonly used tool to assess the extent of social capital. The survey

attempts to quantify a sense of belonging in communities, level of participation in public meetings, amount of community projects, volunteer hours, recreational activities, and frequency of neighborhood gatherings (Aldrich & Meyer, 2015, p. 257). Other tools that seek to measure how social capital occurs in terms of *behavioral manifestations* in everyday life. Survey questions can range from asking how often a participant has donated blood, if they leave the door to their home unlocked, and how many friends and family members does one share trusted information with.

D. Theoretical Foundation of Social Capital

One of the most important aspects of the concept of social capital is trust and reciprocity. This stems from the idea that, through shared norms, honest cooperation occurs between community members (Rivera & Nickels, 2014). Thöni, Tyran and Wengström (2012, p. 635) finds in their research that trust was actually an explanatory variable for cooperation between community members, and therefore the construction of social capital. Thöni et al. (2012) observes that trust incorporates more than just beliefs, the concept signals preferences and intent for community cooperation. Their research reveals that people who express high levels of trust in other community members are more likely to contribute to the betterment of society, as oppose to people with little trust in others. This was also true in terms of tax compliance. If people believe there is wide-spread non-compliance, they are more likely to not comply as well. Regardless of the various components that characterize social capital, interventions aimed at boosting social capital need to decide whether the goal is to create more shared resources or boost trust in the community (Alaimo et al., 2010).

There is some debate of whether social capital resources can equate into some form of capital. This is because social capital resources are unlike traditional assets, and therefore are difficult to quantify. Alder and Kwon (2002) believe this depends on whether the concept is utilized to represent internal or external ties. Meaning, deciding whether social capital exists between actors on an equal level, or between actors in hierarchical structure. Definitions of social capital that focus on internal connections create a picture of the type of environment and culture that fosters social capital, while definitions that focus on external relations place emphasis on the opportunities social capital mobilization can create. When social capital is viewed from an external relations perspective it is easier to quantify the concept as capital-based because the types of social capital resources mobilized contain a market value. For example, the provision of shelter, food, and other necessities. Whereas, social capital as an internal process, creates challenges in terms of quantifying normative values such as trust and reciprocity. While there is consensus that social capital is derived from increased social interaction, there is additional friction in the literature regarding which kinds of social relations create capital. Many cite the importance of networks in the construction of social capital, yet fail to distinguish which kinds of networks as they differ considerably. Networks can vary according to their quality of ties, number of nods, intensity and multiplicity (Alder & Kwon, 2002, p. 24).

Another key element to social capital theory is motivation, which seeks to understand why recipients of social capital participate in the creation and utilization of social capital resources. According to a rational actor model, people are inherently motivated by self-interest. Therefore, community members may be motivated to participate in resilience building processes, because they believe it would have a tangible

effect on their life personally. Others advocate that creators of social capital may be motivated by elements of social exchange theory, where people negotiate between the costs (human and financial) to the perceived benefits of a transaction.

1. Transitional Family Theory

A sub-theory within the concept of social capital focuses specifically on the connections between family members, and what kinds of wider effects these bonds have on communities. Agani et al. (2010) writes about how inter-family connections, family and cultural ties foster group resilience. Through his research in post-war Kosovo, he found that many international organizations and foreign resources of support failed to take into account the social and cultural dynamics of the community. Speaking from a mental health perspective, he argues that reducing stressors created by disasters can most effectively occur at the micro level via family units. Similarly, Bronfenbrenner's bioecological theory is based on the assumption that the well being of individuals is influenced by the quality of relationships one has with family, neighbors and institutional systems (Boon, 2014). Rather than focusing on individuals, the capacities of families to mobilize plays an active role in healing processes and therefore should be garnered. Non-profit organizations can play an important role in cultivating increased ties to family and culture. Designing programs that take cultural, spiritual and ethical values into account can serve as a vehicle to bolster community resilience (Agani et al., 2010).

E. Non-Profit Organizations and Social Capital

There is evidence to support the idea that non-profit organizations can contribute to the production of social capital. For example, Larance (2001, p.15) uses the example of a non-profit organization called Grameen Bank that provides small loans to landless women in Bangladesh. She shows that the weekly meetings required by the Bank, as a condition to receive financial support, provided the women with the opportunity to interact with other women outside their husbands' family and therefore create new social networks while strengthening existing ones. At the meetings, women were all treated equally regardless of caste and religion, and were addressed by their first name (which is uncommon, usually they are referred to by their relation to a male relative), learned how to write their name and memorized the main principles and values of the Bank. Larance (2001) concludes that non-profit design and involvement can be successful in fostering the creation of social capital in rural communities. Others come to similar findings with respect to social capital in rural settings. Kapucu et al. (2013, p. 219), for example, advocate that rural communities have to rely on forms of social capital to make up for an undiversified economic base. Murphy (2007, p. 302) supports the idea that 'rural' or 'traditional' societies may have the potential for stronger social capital relationships due to the increased and sustained interaction among community members that is needed for survival and sustenance.

In a study conducted in Guatemala, Abom (2004) found that non-profits that focus on capacity building and advocacy have the ability to boost social capital in communities. Similar to Larance (2001), Abom (2004) agrees that non-profit design is important when it comes to building social capital. In Abom's (2004, p. 345) case, he found that non-profits

that do not involve the participation from their beneficiaries and carry out a more "charity" role can actually dismantle social capital in communities. The example is used when non-profit organizations distribute handouts and how it reflects a short-term vision because of the little participation expected from beneficiaries. He contends that "this non-participatory approach minimizes the wider social capital-building processes, primarily by contributing to people's mentality of dependence on others, perpetuating top-down values, and acting as a barrier to more fundamental structural change" (Abom, 2004, p. 345). Nevertheless, community organizations are well-positioned to address community needs and wants, and if orchestrated properly, can have an enormous impact on the social infrastructures of communities in differing contexts (Whitham, 2012, p. 444).

F. Associations

Associations are also ideal venues to promote civic engagement, common norms, and democratic principles (Putnam, 1995, p. 74; Wollebæk & Selle, 2003, p. 67). These formal associations usually operate in a manner that is recognized by an official government entity, whether it is in a regulatory manner or tax-exempt status. However, other unofficial associations such as sports teams, book clubs, and block parties can also play an incremental role in the creation of social capital. Alaimo et al. (2010) write about how, in the case of informal entities, community gardens can have positive consequences for community togetherness. The authors argue that community gardens are public health entities that promote good nutrition, physical exercise and community involvement, and that this is especially true in areas that are deprived economically. They found that when researching community gardens in predominately Latino neighborhoods in New York

City, that the gardens were a source of community pride, locations of frequent exchange and socialization of community members, and served as a positive place to gather. Further, Armstrong (2000, p. 323) connects participation in community gardens with wider positive community perceptions, and observed that in upstate in New York, fifty percent of community garden contributors reported that their attitude for their neighborhood become more positive after involvement with the garden. Armstrong (2000, p. 319) found that in four different low-income neighborhoods, garden contributors were four times more likely to spearhead other community development projects due to the organizing skills gained from community garden involvement. Overall, in both cases, community gardens provided opportunities for the linking, bonding and bridging of social capital. When members of communities frequently interact, trust spreads to those participating in associations (Coffé, 2009, p. 158). Instances such as these prove that associations with members who voluntarily contribute are one of the driving forces of social capital in communities.

G. Volunteerism

There is evidence that when a person has a wide social network, and is a member of numerous associations, they are more likely to engage in volunteer activities (Wilson, 2000, p. 223). Volunteerism and social capital are two deeply connected concepts because not only are volunteer hours a valuable resource for a community, but people tend to have more trust in others when they have increased societal ties. Forbes and Zampelli (2012, p. 227) report that in the United States alone in 2010, according to the U.S Corporation for National and Community Service, volunteers contributed an estimated 8.1 billion hours of

community service, totaling $173 billion dollars of market value. There are a number of ways people can lend their time, whether it is in traditional service delivery organizations, political activism, church programs, or informal care of an elderly family member or a neighbor. Activism is generally associated with working towards the achievement of political goals while volunteering is most commonly projected at providing needed services to disadvantaged groups of people. Because of the numerous avenues that one can lend their time, it is difficult to measure the effects of volunteering and its impact on societal resources (Wilson, 2016). Volunteerism and social capital are intrinsically co-related as the activity tends to be proactive in nature versus reactionary (Wilson, 2016, p. 216).

Putnam (1995, p. 65) argues that the United States over the years began to experience lower rates of volunteerism and in combination with other factors has thus contributed to the decline of social capital. One of Putnam's (1995) assertions is that with larger numbers of women entering the workforce there are less available people to volunteer. However, disagreeing with Putnam, Wilson's (2000, p. 217) research believes an increase of women in the labor force has not affected volunteerism rates, he argues it has changed the way they balance paid and non-paid employment. This is based on the perception that people who are unemployed have more time to volunteer and therefore are more likely to, however, Wilson (2000, p. 221) and Forbes and Zampelli (2015, p. 240) found that the lowest rates of volunteers are among those who are currently unemployed. In fact, research shows that the more paid hours a person does has an upward correlation with non-paid volunteer hours devoted. Some of the highest rates of volunteerism come

from people who are, by definition, self-employed and those who are employed in the public and private sector with flexible work schedules (Wilson, 2008, p. 221).

1. Motivation to Participate

There are a number of reasons why people decide to commit to non-paid work aimed at making a positive impact on their communities. As Wilson (2010, p. 218) shows, many of these factors are environmental, as in there are a number of predictors that signal how some people are more likely than others to volunteer. For example, those in their teenage years are more likely to volunteer if their parents regularly do. Leading by example, parents impart societal values such as reciprocity, justice, and social responsibility to their children. Further, if youth volunteer in these crucial years, they are more likely to volunteer later in life (Wilson, 2000, p. 218). Along with Wilson (2000, p. 215), Forbes and Zampelli (2015, p. 239) found that a person's level of educational attainment after high school was one deciding factor in the likelihood they will donate their time to community causes. Scholars believe that the links between volunteerism and education lie in the fact that through educational settings, children and young adults are exposed to societal ills, and are taught values such as empathy and teamwork. Educational curriculums also have the opportunity to teach self-confidence, civic skills, and practice methods of gathering resources through school fundraisers (Wilson, 2000, p. 220).

In terms of social-exchange theory, evidence points to the fact that many people will volunteer when they feel they have vested interest in the subject manner (Wilson, 2000, p. 225). For example, people with children are more likely to volunteer for parent-teacher associations, or aging adults helping the elderly because of the perceived benefits

of community involvement. One of the fastest growing demographics in the United States in terms of volunteer rates is older adults (Wilson, 2000, p. 217). This is believed to be the case because as people age, their supply of social capital decreases due to social isolation, therefore many turn to volunteering as means to develop new social connections (Wilson, 2000, p. 217). This can be especially true for aging adults who tap into social networks created by churches. For many, churches and other kinds of religious organizations create a platform for people to carry out and demonstrate their values (Forbes & Zampelli, 2015).

On the other side of the spectrum there are those who take a more human capital perspective in their decision to donate time. How this differs from social capital is that human capital is more concerned with expanding the resources of an individual versus a community. In this respect, many people volunteer for economic reasons, that is they believe through increased channels of social networking, field experience and skill attainment provided by volunteer experiences, they can enhance their own socioeconomic and career prospects. This is because there is also an educational affect of these associations as they impart skills and competencies (Wollebæk & Selle, 2003, p. 69).

Regardless of one's motives to donate their time to community causes, retention of all types of volunteers continues to be a main struggle for traditional service-delivery community organizations. Often times volunteers are recruited and trained at substantial cost incurred by the organization, therefore it is in the best interest to retain skilled volunteers. Yet research shows that volunteers quit because they do not feel as though their efforts are being recognized by paid staff (Wilson, 2010, p. 222). In unpredictable economic and political times, the need for volunteers to fill in gaps in services the government cannot afford or does not have the political will to deliver, will only increase

(Forbes & Zampelli, 2012, p. 227). Therefore, the need for the generation of social capital will continue to be imperative to community success.

2. Passive Activism

Research on participation and social capital formulation in Norway points out that people can be involved in associational life without donating their time (Wollebæk & Selle, 2003). While the internal effects on volunteers often results in habit-forming practices of cooperation, thus generating social capital, passive support for community organizations can also have positive effects on community life. Putnam (1995) uses the example of increased forms of passive support such as signing petitions, making financial donations, or joining mailing lists as evidence of declining social capital in the U.S because of the lack of face-to-face interaction. Wollebæk & Selle (2003, p. 70) disagree and invoke the theory of *imagined communities* to advocate how passive forms of community support can lead to the creation of social capital. In their research in Norway, other Scandinavian countries and the Netherlands they found that passive members of community organizations out number actual volunteers, yet regardless of the level of affiliation, passive membership reduces political and social alienation. Imagined communities are characterized by the lack of face-to-face interaction, yet are effective at providing feelings of psychological belongingness to its members, and promoting increased levels of abstract trust and affinity to those related to the cause.

Yet one must take into consideration that in many Scandinavian countries, including the Netherlands, their governments have established wide social safety nets and therefore may not need as many traditional service-delivery associations. In countries

lacking social services, whether it be in developed, developing or urban versus rural contexts, may need more active forms of civic participation to fill in the gaps. Volunteerism has to be at the core of any societal fabric, not only is civic engagement tied to lower crime rates, but there is a positive correlation between citizen activism and the effectiveness of democratic government (Whitham, 2012, p. 442; Armstrong, 2003, p. 320).

H. Obstacles

While governments and non-profit organizations have come to recognize the importance of social capital in communities, there are still many practical obstacles to overcome. Wilson (2010, p. 241) reveals that volunteerism rates are seemingly lower in non-white communities in the United States. In terms of social networks, Forbes and Zampelli (2012, p. 248) observe how when a person has a greater diversity in friendships they are more likely to engage in volunteer activities. Wollebæk and Selle (2003, p. 67) believe that it is through face-to-face interaction where people from different backgrounds develop trust for each other. There are conflicting accounts of the difficulties in creating social capital in diverse communities, some believing that people from different ethnic and racial backgrounds are less likely to trust each other and therefore develop social capital (Coffé, 2009, p. 157), while others advocate that it has less to do with ethnic and racial differences and more about economic disparities, such as low homeownership rates (Bowles & Gintis, 2015, p. 422).

Coffé (2009, p. 157) contends that social capital is more difficult to develop in heterogeneous communities. The author hypothesizes that people are more comfortable

interacting with others who have similar backgrounds as themselves. This goes along with the findings of a Harvard study that found that people tend to trust others of their own race and nationality more (Coffé, 2009, p.158). Coffé (2009) argues that this can be rooted in societal friction caused by feelings of cultural domination from a certain group of people or a struggle for government resources (Coffé, 2009, p.157). In many cases, social capital generates in homogenous groups where strong social connections exclude often marginalized members of society. DePilippis (2001, p. 801) also notes how networks can and do exclude people. In terms of creating social capital this is problematic as the three core components of social capital are generalized trust, norms of reciprocity, and networks. However, Coffé's (2009) argument that heterogeneous populations have more difficulties developing social capital is contradicted by the research of Thöni et al. (2012) that contends that trust, as a proxy for social capital, is more relevant than age, race, education, or salary as a predictor.

Bowles and Gintis (2015, p. 422) shed a different light on the perspective that heterogeneous populations face more obstacles in their pursuit to generate social capital by presenting the argument that rather than a clash of cultures, economic disparities are to blame for community stagnation and distrust. Further, they advocate that social capital can prevent situations normally characterized by market failure, because "communities do what governments and markets fail to do because members, not outsiders, have crucial information about other members' behaviors, capacities and needs" (Bowles & Gintis, 2015, p. 423). An example of how this can manifest, as presented by Bowles and Gintis (2015), is how community cooperatives among Japanese fisherman pool catches in order to prevent variable incomes, and cooperatives of small businesses in northern Italy form to

compete with economies of scale, show how increased social connectedness can boost incomes for multiple families in a community. Alike, Whitham (2012, p. 541) also notes the effect of economic barriers to social capital construction by observing that unemployment is negatively correlated with community success.

Similarly, Roxas and Azmat (2015) examine the relationship between economic resilience and social capital. Their main finding is that social capital within a community can facilitate entrepreneurship. This is extremely important, as entrepreneurship is seen to be a key contributor to economic development, especially in rural communities located in developing countries. Wilson (2001, p. 221) briefly touches on the same subject by emphasizing the importance of designing programs that impart entrepreneurial skills to younger members of society. There are those such as DeFilippis (2000) who while criticizes Putnam (1995), makes a valid argument that the concept of social capital is often disconnected from economic capital. The concept of resilience and social capital are analogous with ideas concerning local and community-based development, rather than traditional top-down models often imposed by state authorities, entrepreneurship compliments this pursuit as it involves bottom-up and inherently self-motivated versus imposed economic development (Roxas & Azmat, 2015, p. 135). Social capital is also believed to help those seeking to start new businesses and enterprises because of increased interaction with other peers leads to the exposure of new ideas and practices (Roxas & Azmat, 2015, p. 137).

I. Conclusion

Providing conceptual clarity regarding complex concepts like community resilience and social capital can help guide future disaster management policy. Definitions of social capital differ in the fact that the concept is sometimes described as network-based and other times it is described as a resource-based concept. This divide can be understood as a concept that emphasizes internal linkages versus one that can lead to the external creation of resources. When utilizing social capital as an internal theoretical construct, normative values such as trust and reciprocity are highly infused with definitions of social capital. From an external perspective, some scholars place more emphasis on how social capital can equate to financial capital. Regardless of the differing viewpoints, studies have shown how normative values such as trust signal action and willingness to contribute to community projects. Therefore, developing innovative ways to bolster trust in communities can build increased reserves of social capital. This is an important endeavor because social capital resources are disaster management resources. Further, research has identified the role of non-profit organizations and individuals donating their time as key to the construction of social capital. Additionally, the presence of formal and informal associations is vital to a community's well-being. Their use of volunteers needs to be supplemented with an understanding about who volunteers and why, because volunteer participation is critical to building social capital as means to create disaster resilient communities. Studies have shown how social capital can fill in gaps in services during times of crisis, and how the lack of social capital can contribute to community decline. While the creation of social capital is incredibly important during times of normalcy, the concept in combination with community competence and local

leadership capacity is critical to a community's capability to prepare, respond and recover from disasters. This is because the concept of social capital focuses on the strengths and skills already contained in communities. Community resilience also seeks to develop ways communities can come to their own aid during times of crisis. As natural resources become increasingly depleted, people around the world, regardless of country or income, will have to devise ways to work together with other members of their community in order to thrive. Therefore, future research must further seek to understand how social capital resources can be deployed and mobilized for the sake of the safety and well-being of a community.

CHAPTER IV
THE ROLE OF SOCIAL CAPITAL IN BUILDING THE RESILIENCE OF COMMUNITIES

A. Introduction

After 2005, the literature on social capital began to take a closer look at the benefits of increased interactions between individuals. Consequently, scholars and emergency managers have taken special interest in the role of social capital in the disaster cycle. Some researchers have taken a psycho-sociological approach. This interpretation of social capital and resilience that focuses on the impact of individuals and communities on trauma response and recovery (Cheshire, Esparcia & Shucksmith, 2015, p. 12). The contribution of community resources to the field of disaster management is not only overlooked, but undervalued (LaLone, 2015, p. 209). Social capital resources and community-based networks are vital for communities seeking to enhance their resilience-building efforts to respond to and recover from natural disasters (Fan, 2015; LaLone, 2012; Cheshire et al., 2015). Developing social capital in communities increases the likelihood that communities will remain intact after disasters, and provides encouragement for processes of recovery (Tierney, 2013).

Citizens and community organizations taking part in the disaster management process is not a recent phenomenon. Before the 20th century, social services were entirely provided by religious communities (Aldrich & Meyer, 2015). Today a high proportion of government disaster management dollars is funneled into federal and state agencies, even when it is proven that these entities are incapable of applying context specific solutions,

and helping communities become stronger before disasters strike (Aldrich & Meyer, 2015, p. 255). Moreover, governments are beginning to realize the importance of community networks and organizations in the disaster management process. Authors such as Putnam (1995) and Whitham (2012) have used the concept of social capital to explain why some communities thrive politically, socially, and economically while others languish. Social capital and community resilience are complementary concepts because the virtue of belonging to place-based or interest-based groups makes people more resilient to hazards (Murphy, 2007, p. 298).

The role of social capital in community resilience reflects the belief that in a social-ecological system, community norms and networks foster collective action that can be summoned during times of crisis (Adger et al., 2005). Aldrich and Meyer (2015, p. 255) believe that disaster management entities should invest in social capital versus bolstering existing physical infrastructure because research shows that social capital enhances resilience, and that no investment in physical infrastructure can eliminate all possible vulnerabilities. Social capital creates an "interpersonal infrastructure," where the concept of neighbors generates high levels of trust and collaboration (Breton, 2001, p. 23). In the immediate period following loss of life and damage to housing, the first responders are usually neighbors, family members and friends. Such a social infrastructure can provide desperately needed services during times of crisis such as psychological support, childcare, the exchange of information, and help with the restoration of housing.

B. Case Studies

The utilization of social capital is key to the development of community resilience (Rivera & Nickels, 2014, p. 10). There have been several documented case studies that show the importance of social capital before, during, and after a crisis. In many countries with poor urban and rural governance, communities either never receive external resources or have to wait extended periods of time for formal assistance (Bankoff, 2007, p. 346). The following sub-sections will discuss instances of social capital mobilization as key to the resilience of communities in an urban and rural context.

1. An Urban Context

Even developed countries with increased urban governance structures in place have come to rely on social capital during times of crisis. Rivera and Nickels (2014) take the example of a Catholic Parish that was instrumental in helping a neighborhood re-build after Hurricane Katrina. In the period following the storm, the failure of the government response was evident, which necessitated the third sector to spearhead the survival and revival of affected communities. In this case, the father of a church mobilized members of the parish to get involved in disaster cleanup and home restoration. He pressured city government to de-centralize decision-making processes, established return committees to encourage residents to come home, collected donations, and pressured the city to restore power. This example shows how community institutions can provide active agents that are capable of assuming leadership of community affairs after experiencing a disruptive event. The experience of Hurricane Katrina showcased the eroding state capacity of governments

in disasters scenarios, and the increasing reliance on non-profit institutions to play a role (Rivera & Nickels, 2014, p. 179).

Molin Valdés and Lucini (2013) take the example of megacities, which use existing networks of social capital and resources to become resilient against future threats. Emergencies related to terrorism and the spread of disease have adverse effects on urban centers due to the density of populations, and also because these areas are more likely to act as regional economic engines that house cultural and political institutions (Cheshire et al., 2015, p. 15).

2. A Rural Context

Apart from cities, Kizos, Detsis, Iosifides and Metaxakis (2014), Ledogar and Fleming (2008), and LaLone (2012) show how in rural settings social capital is especially vital for resilient communities. This notion is further demonstrated by the work of Kizos et al. (2014), that documents how, in rural Greece, social capital between sheepherders boosted ecological resilience, prevented over grazing, and boosted the economic capital of individuals and the entire community. Contributing to the literature regarding the relationship between social capital and social-ecological resilience, Cheshire et al. (2015, p. 15-17) details how when agricultural areas experience hardship, families are adversely affected due the higher economic dependence on farming and the health of the land and crops.

People in rural areas are more prone to utilize social capital networks to boost resilience because they are simply lacking in formal resources (Cheshire et al., 2015, p. 18). LaLone (2015) provides a detailed account of how a rural community in

Southwestern Virginia utilized social capital networks in order to recover after a tornado destroyed homes, businesses and vital infrastructure. In a breakdown of how the community response unfolded, the author outlines how informal networks quickly responded and in a matter of two days overtook the formal response from local authorities. This contrasts with Whitham's (2012, p. 453) finding that informal networks are not as successful as formal networks in their impact on community disaster management. This discrepancy can be explained by the fact that not every community responds the same way to adversity, so in some experiences formal networks will be preferable, and in others, informal networks provide more actionable results (Sherrieb, Norris, & Galea, 2010, p. 228). LaLone (2015, p. 209) takes the middle ground and advocates for the deployment of informal social capital resources in combined with formal policy channels as an essential mechanism for a community's display of resilience in the aftermath of a catastrophic event.

LaLone (2012) documents how after the tornado, friends, family and neighbors banded together and distributed responsibility for volunteer management, donations collection and distribution, debris removal, home repairs, meals, and sheltering. Community members tapped into their friend-based, work-based and interest-based social networks. For example, an employee at a local animal hospital spearheaded the effort to care for the pets affected by the disaster, and procured donations from a state-wide network of other veterinarians (LaLone, 2015, p. 217). The community response was vital because in the end, FEMA denied the community access to federal funds for recovery because of the scale of the disaster. This is incredibly common, while larger disasters such as Hurricane Katrina receive abundant media attention and become eligible for federal

funding, there continue to be many disasters of lesser scale that are equally disruptive to communities. This further demonstrates the importance of social capital resources, from both informal and formal networks to take responsibly for all phases of the disaster cycle because government assistance is not always available or adequate.

C. Developing Social Capital Before Crises

While the importance of social capital in the realm of community disaster resilience is profound, there is evidence to suggest that the utility of social capital during times of crisis depends on the presence of social capital before times of need. LaLone (2015, p. 211) shows how before the tornado struck, records show that the area affected was known for strong bonds between mining families and a culture of reciprocity and mutual assistance during times of relative normalcy. This foundation of social capital before a crisis occurs is important to building community resilience (LaLone, 2015, p. 220; Wickes, Zahnow, Taylor, & Piquero, 2015, p. 330; Sherrieb et. al, 2010, p. 228). There is also evidence that the opposite is true. If an area has limited social capital reserves before a disaster occurs, it will be less likely to display resilience in times of increased stress (Wickes et al., 2015, p. 330). Williamson (2013) observed similar findings as his research revealed that educated and economically stable communities were more likely to quickly re-bound after a disastrous event. Further, the people in the areas he observed were more likely to be better organized and have political allies.

Despite these revelations, Wickes et al. (2015) and Williamson (2013) cast doubt on the relevance of the concept of social capital and its role in community disaster resilience, and argues that the economic health of a neighborhood is a more important

indicator of a community's successful return to a state enjoyed prior to the disruption. While the authors attempt to debunk the relationship between social capital and community resilience, they actually prove the opposite point by failing to understand that social capital and economic capital are intrinsically related, and that the relationship between social capital and community resilience represents a paradigm shift in disaster management because of precisely it's special attention to the period before a disaster occurs in terms of the economic and social health of communities. While the role of social capital in the recipe for community resilience is debated, those who criticize the concept's utility fail to understand that social capital is but one aspect of the community resilience equation. One of the most referenced authors on the topic, Fran Norris, imparts that community resilience is more than a sum of social capital, and that the concept emerges from three other adaptive capacities that include economic capital, information/communication capabilities, and community competences (Norris et al., 2008, p. 137).

Mathbor (2007, p. 358) also takes a holistic approach and emphasizes the importance of the promotion of social development in the form of community capacity building in order to display collective and cohesive strength when responding to disasters., Poortinga (2012) equates community capacity to the state of communities during times of normalcy. He finds that healthy neighborhoods have a fine balance of human capital (skills and education), social capital (social networks), built capital (access to amenities), natural capital (ex. access to green space), and economic capital (income). His research further connects the interplay between social capital, education, health, and community resilience.

The concentration of vulnerable populations, diverse ethnic groups, and high levels of tenant turnover make it difficult for communities to "bounce back" (Wickes et al., 2013, p. 330). Further, according to Poortinga (2012, p. 286) and Wickes et al. (2013, p. 333) social capital is associated with a range of health and educational outcomes. People living in economically deprived areas routinely have poorer health than those living in economically vibrant communities (Poortinga, 2012, p. 286). Further, social capital is linked to better mental health, lower cardiovascular disease, cancer mortality, and suicide rates. In terms of social capital, health and community resilience in the post disaster phase, after Hurricane Hugo and Andrew residents with a strong social support network were twice as likely to follow evacuation orders than residents with weak community ties (Riad, Norris, & Ruback, 1999, p. 927). Mathbor (2007, p. 364) adds that in his study of extreme weather events in Bangladesh, mortality rates after disasters were higher in more economically deprived areas, because families that could not afford more expensive and better quality home building materials were less safe.

D. Conclusion

Social capital can serve as a useful theoretical concept to enhance the way communities respond to disasters. From this perspective, communities are the principle actors in the quest for resilience. As a key ingredient of community resilience, social capital is one of the most significant resources when responding to disruptions either caused by natural or man-made hazards. There is disagreement in the literature as some contend that the existence of social capital does not subsequently result in community resilience. Although there is significant research to suggest the utility of the concept of

social capital in the community resilience equation, full conceptual effectiveness depends on the presence of social capital before times of crisis. Further, even though social capital has been linked to community health and safety, there still is little direction on how to boost and maintain its role in community resilience. Yet, cases such as LaLone (2015) and Rivera and Nickels (2014) show how the assumption that community resources are not professional or adequate enough to respond to disasters is misguided. Further research should seek to evaluate the contribution of social capital to the resilience of communities during non-crisis times. There needs to be a more nuanced approach to disaster recovery that considers community members, networks, and organizations as critical to communities becoming more resilient. Because external, state-sponsored help is never guaranteed, and often lacks adequate prescriptions to complex problems, communities need to utilize all resources available, whether they originate from community action or a synthesis of external support to ensure a swift return to a positive trajectory after a disaster.

CHAPTER V
HOW TO BUILD RESILIENCE

A. Introduction

Because the concepts of community resilience and social capital have been deployed to craft national and international disaster management policies, there is a need to provide conceptual clarity to these terms. Perhaps equally important, is the need to explore scholarly work that focuses on the practical recommendations of how to enhance community disaster resilience to find solutions that can be applied across multiple contexts. There are few scholarly works that seek to aggregate practical recommendations to create a tool to guide community organizers and emergency managers. While recognizing that no two communities are alike, and that any resilience-building effort needs to be tailored to their specific contexts, this review has identified three different themes that appear in the literature regarding documented observations on what separates resilient communities from those that are vulnerable to impending threats. The three themes proposed do not represent an all-inclusive picture on how communities can be more resilient; it portrays practical recommendations on how communities can be more resilient through the emphasis on social infrastructures as drawn from the literature review process. These elements, which are discussed below are:

1. Making Communities Stronger Through Social Cohesion
2. Expanding Community Networks
3. Demographics-Conscious Decision-Making

B. Making Communities Stronger Through Social Cohesion

Communities are more resilient when people interact frequently, trust one another, and share resources and responsibilities. Community meetings can serve as a platform for citizens to voice opinions and influence public decision-making. This helps to establish a process where people develop a shared vision of what they want their community to look like in the future. Community-wide activities such as block parties, sports teams and after school programs for children, for example, promote a sense of togetherness. In Seattle, the city government has set up a "Department of Neighborhoods" where funds have been set aside for community events and gatherings. The Department of Neighborhoods collaborates with emergency managers to create community emergency hubs in existing community gardens and other organizing spaces. The hubs seek to build capacity before crises by conducting preparedness trainings, then during emergencies they serve as information and donation distribution points. As promoted by LaLone (2015), this is a good example of how a community emphasis model can facilitate the collaboration with formal and informal entities to build social capital and boost community resilience.

The fields of urban planning and disaster management are becoming increasingly interconnected. Scholars such as Aldrich and Meyer (2015) argue that the physical layout of communities, neighborhoods, and even housing complexes affect the creation and maintenance of social capital, and thus affects community disaster resilience. Along with Whitham (2012), they advocate for the creation of "third spaces" that are not dwellings or places of work, which could include community centers, sports complexes or even cafes. The authors believe it is in these types of places where an important aspect of social capital is created.

C. Expanding networks

As gleaned from the literature surrounding bolstering community resilience, there is a great need to expand localized networks to enhance the capacities of community institutions and increase the strength of stakeholders. Community institutions such as schools and churches are pivotal in the creation of social capital and therefore the resilience of communities. In terms of increasing the strength of stakeholders, bolstering the ability of the third sector to fill in vital gaps in services has served as effective means to generate social capital. Additionally, the need for the third sector and private sector to increase cooperation is key to building resilient communities. The private sector provides many opportunities for economic revival and survival of communities and therefore plays a critical role in utilizing social capital for means to boost resilience.

1. Community Institutions

Community institutions serve an important role in communities in times of normalcy and crisis. In many circumstances, schools and churches shelter those in need and organize food and clothing drives. Churches are usually the most common institution in communities, and as such they are a valuable resource in the resilience building process. They often serve as the backbone of social capital mobilization. Churches have the ability to empower people to engage in their communities, mobilize volunteers, collect resources, advocate for the community, and provide psychological support as many people turn to faith during hard times as a mechanism of coping.

Schools can also positively contribute to the disaster management process by not only offering the use of facilities and equipment but also creating disaster preparedness

educational programs that can benefit students and parents alike. In more of a capacity building role, schools play an important role in the generation of social capital, and the creation of networks that can be utilized during times of crisis. LaLone (2015) highlights how sub-networks derived from schools can make a difference in terms of disaster relief. In her research, she details how culinary arts students prepared meals for volunteers helping with the community's recovery process. The development of educational curriculum should expand on the instruction of normative civic values to include volunteer-oriented programs (Wilson, 2000). Whitham (2012, p. 454) and Wilson (2000, p. 219) show the connection between education and volunteerism by observing that education is one of the highest predictors of civic engagement. Schools are "hotbeds" of increased social connections between students, parents, staff and sports coaches, because of this, the future of nations will depend on these sorts of relationships as reserves of social capital (Comer, 2015).

In terms of innovative institutional arrangements, one important element of disaster-planning at the local level involves the establishment of a disaster assistance councils that includes all potentially useful community organizations such as schools and churches (Murphy, 2007). Breton (2001) also advocates for the need of this kind of planning committee to coordinate disaster risk reduction. Such entities should be assigned a budget for disaster risk reduction and provide incentives for homeowners to join in order to increase the standard of living in low-income communities. The success of local disaster assistance councils depends on garnering the support of multiple actors in communities. This could include representatives from local volunteer and relief initiatives, hospitals, business partners, and neighboring communities or municipalities. Such

councils can lay the foundation for the development of collaborative community-based plans that identifies resources and volunteer roles.

2. Increasing the Strength of Stakeholders

In order to increase the strength of stakeholders, the involvement and cooperation of the third sector and private sector is essential. Non-profit organizations provide needed services during times of normalcy and crisis. While the private sector is partly responsible for the economic health of communities, and therefore the resilience-building capacities.

a. The Non-Profit Sector

Service-delivery organizations work to fill in gaps of state-sponsored service to vulnerable groups. Authors such as Fitzpatrick and Molloy (2014) focus on non-profits establishing increased partnerships with other non-profits, service groups, and with individual community members. Non-profit programs that are specifically aimed at educating people about disaster risks will not be successful unless there are increased channels for citizen participation. Agani et al. (2010) believe this can be accomplished by garnering the support of respected members of the community to encourage the involvement of other community members. With citizen participation, community organizations can make sure that programs are designed in a way that takes cultural, spiritual, and ethical considerations into account.

Other authors such as Murphy (2007) focus on the impact of larger organizational entities to tackle issues related to disaster response. The author identifies four different kinds of community organizations that can take part in the disaster management process. Established organizations such as the coroner's office can continue to perform the same

tasks in a non-disaster context. Expanding organization take on new activities and increase in size during crisis periods. Extending organizations take on "novel" tasks but their structure of authority stays the same. While, emergent organizations arise during crises to meet unmet needs. Within an organization, Fitzpatrick and Molloy (2014) found that a vibrant third sector response has been most successful with the establishment of sub-groups. In the case of flooding in Australia, Fitzpatrick and Molloy (2014) found this to be a successful way to distribute responsibility.

b. The Private Sector

While individual institutions are important for community disaster resilience, the need to establish networks of diverse stakeholders is at the upmost importance, especially with respect to the involvement of the private sector. Connecting social and economic capital, DePilippis (2001) firmly advocates for the need to create social networks where economic capital can be realized. Examples of this include community credit unions, mutual housing associations, community land trusts, and trade cooperatives. Alike, Roxas and Azmat (2014) believe that economic capital can be realized, and poverty can be eliminated in communities with the establishment of programs that encourage and support entrepreneurs through networking opportunities, apprenticeships, and exchange opportunities. Additionally there is a great need to expand opportunities to create connections between the non-profit sector and the private sector in their support of a community cash system, where volunteer hours are time-banked and redeemable for a monetary value at local businesses (Aldrich & Meyer, 2015).

With regards to public/private partnerships, Stewart et al. (2009) believe that such arrangements must be at the forefront of disaster management planning. In many cases the

two sectors are dependent on the success of each other. For example, in an American context, 85% of critical infrastructure is owned by the private sector. During times of normalcy the public, and non-profit sector need to establish working relationships with each other to prepare and plan for a loss of critical infrastructure during times of crisis. Carpenter et al. (2012) emphasizes the importance of increasing intelligence sharing between the two domains and the need for the public sector to encourage the private sector to develop contingency plans.

c. The Design of Institutions

While the individual strength of stakeholders is important to the concept of community resilience, how institutions are designed impacts their capability to bring meaningful change to communities served. Lebel et al. (2006) recommends polycentric institutions (having multiple centers of authority), and multilayered institutions (which create opportunities for vertical interplay among institutions) because such a structure creates room for learning and flexibility that can be directed to making sure target settings receive context specific interventions. Coming from a governance perspective, community resilience building initiatives should utilize local knowledge because it "can inform local actions in ways that a single centralized system cannot." Lebel et al. (2006) and Coffé (2009) also believe it is important for the makeup of institutional arrangements to include diverse representation to ensure that groups of people are not excluded from the decision-making process.

D. Demographic Considerations

The following subsections entail two important demographic considerations when crafting community resilience building policy. While there are many different demographic factors that affect the resilience of a community, a review of the literature has identified that the age of a population affects community resilience. Also targeting populations based on gender, specifically women, can have positive impacts for helping families and communities prepare for disasters.

1. Age

Different age groups anticipate, respond and recover from disaster differently. Chen et al. (2009) observed that during the 1995 Kobe Earthquake in Japan, areas with a higher concentration of older adults were less resilient. When business districts are affected by disasters, the elderly loose needed access to a concentration of critical services, creating many difficulties as they are less mobile and independent. Amundsen (2012, p. 45) and Kapucu et al. (2013) touch on this subject by also observing that in rural communities, many young people go to cities to search for jobs, leaving at-risk populations to remain in at-risk areas. Low population reduces resilience, therefore innovation and renewal must occur in areas to ensure demographic diversity. Urban planners must design areas before and after disasters that contain equal representations of age groups.

2. Gender

Another facet of the effect of demographics on community resilience is the role that gender plays in the process. The Hyogo Framework acknowledges that women in rural and traditional settings are affected differently by disasters because they do not have as much access to public information. Enhancing socioeconomic opportunities for underprivileged populations, as shown in Khalafzai and Nirupama's (2011) research in Pakistan regarding teaching technical skills to women, has proved to positively contribute to the resilience of individuals, families and communities as a whole. Further, Roxas and Azmat (2014) advocate that developing entrepreneurial skills is important for the health of communities, especially programs that target women so that households can have an additional safety net income. In terms of disaster management, Mulyasari and Shaw (2013) come to similar findings and argue that more programs should be developed that utilize women as risk communicators, because they found that women are more likely to create social networks. They also observed that women tend to see themselves as more vulnerable, therefore they perceive threats to family and community more seriously than men and are more likely to engage in early warning networks and preparedness actions. Additionally, during times of crisis women are more efficient at distributing goods and ensuring the most vulnerable members of society such as children and the elderly receive resources.

E. Conclusion:

Communities can be more resilient to disasters through social cohesion, expanding networks and targeting certain demographics. They are many innovative ways to increase the social connectedness of a community. The organization of community events whether

for social purposes such a block parties, or official meetings, can offer increased opportunities for community members to establish networks. Additionally, programs such as community cash systems, where volunteer hours can be redeemed at local businesses, encourages individuals to donate their time to their community. While connections between individuals is important, a key to community resilience building involves expanding networks through increased connections between organizational entities such as non-profit organizations, private businesses, churches, libraries, and schools. There is also a need for organizations that are solely dedicated to disaster risk reduction and facilitating increased partnerships. Focusing inward on the internal makeup of institutional entities, community organizations need to utilize local resources and knowledge, which can be accomplished through the creation of polycentric organizational structures. Externally, increasing the strength of stakeholders is extremely important in the pursuit of community resilience. In this realm, networks of private and third sector entities need to be empowered to be stronger individually, to establish deeper connections and ties with each other. When individual entities, and networks of stakeholders take action to bolster reserves of social capital as means to produce resilient communities, they must also take demographic considerations into account. This can manifest in ensuring communities have a diverse representation of age groups, because older adults are disproportionately affected by disasters. There is also evidence that gender plays an important role in building the resilience of communities. Women are valuable assets to building community resilience because not only do they care for the most vulnerable members of society but they have proven to be effective disaster risk communicators. The intersection between social capital and community resilience serves as a useful theoretical construct, yet can only benefit the

general public if such notions can translate into practically guided policy. Scholars need to direct attention to gleaning practical recommendations from the literature, and aggregating findings in order to help produce policy that has the best chances of bringing meaningful change to peoples lives around the world.

CHAPTER VI:
CONCLUSION

A. Introduction

The concept of resilience has become mainstream in government emergency management and non-profit community development rhetoric, even though scholars and practitioners disagree on the definition and main characteristics of resilience. Because the frequency of natural disasters is increasing as well as their magnitude in terms of human and economic tolls, there is a great need to understand the mechanisms and steps individuals and communities can take to become more resilient to strife. One necessary step to guiding efforts is to explore the theoretical foundation of the concept of resilience by focusing on the main characteristics found in literature. Resilience theory has introduced the idea that in order to effectively mediate disasters, disaster risk reduction must be incorporated into community life during times of normalcy. In a pursuit to utilize local-level resources, academics and practitioners alike shifted their attention to enhancing the capacities of communities as a target group versus nations as a whole. A part of this effort is garnering the support of community members and local organizations in formal and informal realms. Social capital as a resource is an important aspect of community resilience because numerous studies have documented the benefits of local social networks mobilizing to assist in all phases of the disaster cycle. The following sections will summarize resilience as a concept, the concept of community resilience, social capital, the role of social capital in the community resilience process, and practical recommendations of how to build resilience.

B. Resilience as a Concept

The concept of resilience is not fully developed, the lack of consensus in the literature clouds clarity and inhibits conceptual growth. This is largely because resilience is a concept that has been adopted by many different disciplines and applied to various contexts. By aggregating many different definitions of resilience and observing the common characteristics, scholars and practitioners can better lead efforts to create programs and policies targeted at bolstering community disaster resilience. Across the varying fields and contexts there are four common characteristics in the definitions of resilience. These common characteristics are: anticipation, adaption/flexibility, absorption and bouncing back/forward. Anticipation refers to the period before a disaster where communities have the opportunity to plan ahead according to past and expected disasters. Adaption and flexibility is related to the idea that the concept of community is synonymous with fluidity and constant change as communities are not isolated entities. Absorption involves the ability of an entity to incorporate changes into it's structure in addition to adapting to changes in its environment. Then bouncing back after a disaster means to return to a state similar to one enjoyed before the disruption, or even bounce forward in terms of emerging stronger after discovering newfound skills and resources while confronting challenges.

There are also multiple levels across the literature that the concept of resilience can be applied to. These levels are: individuals, organizations, communities and systems. On an individual level, the field of psychology utilizes the concept of resilience as a way to explain how some people thrive despite negative setbacks in life, while others do not. Organizational resilience represents the ability for both public and private organizations to

confront challenges and thrive in a way where the entity is able to maintain relevance. When observing larger contexts, such as communities that are composed of individuals and organizations, the concept of community resilience is not only applied as a sum of the resilience of the individual components but also indicative of the resilience of all components working together in unison to overcome complex problems. Because communities often are not fixed entities, community resilience targets communities of interest, peer networks, and institutions. Beyond communities, the resilience of systems is most commonly applied to ecological and social-ecological systems, measuring such variables as the impact of droughts or floods on the resilience of an ecosystem.

C. Community Resilience

The concept of community resilience incorporates local-level resource development and management as a method to combat the ineffective top-down disaster management policies of the past. This shift in mindset on the behalf of policymakers and the non-profit sector represents an emphasis governance, in terms of the coordination of various community stakeholders over a government-centered approaches. Communities, not governments, are better positioned to play an important role in the disaster management process because they have more in-depth local information about disaster prone areas and vulnerable residents, most often act as first responders, and have more invested interest in the revival of their community, can mobilize social networks, and have access to resources and equipment already embedded in the community.

While there is no agreement on how to define resilience, the same truth holds for scholarly work covering community resilience. The main difference in definitions of

community resilience is that each definition generally refers to only one phase of the disaster cycle, thus emphasizing various key aspects of the concept. For example, Stark and Taylor (2014) advocate that community resilience involves a synthesis of local non-state and government resources to meet crisis management objectives during a crisis. While Norris et al. (2007, p. 127) confers that community resilience is about linking adaptive capacities to a positive trajectory of functioning after a disaster occurs.

In community resilience literature a number of scholars provide different indicators to attempt to measure and guide comprehensive resilience building efforts. Throughout the varying sets of indicators commonalities include attention to community resources, community networks of stakeholders, the importance of institutions and services, and social capital via people to people connections. Yet there are different outlier indicators that individual authors place emphasis on, such as Ainuddin and Routray's (2012) importance on the economic well-being of a community when determining resilience. Further they advocate, along with Carpenter et al. (2012) that the physical resilience of business and residential structures along with critical infrastructure plays an incremental role in the community resilience-building process.

There are also various perspectives that advocate for a less comprehensive approach, and argues for increased attention to certain aspects of the community resilience process. For example, Acosta et al. (2013) believe that state entities continuously fail to recognize the importance of non-governmental resources in the disaster management process, therefore a key aspect of building the resilience of communities is strengthening and legitimizing the work of community organizations. Others such as Agani et al. (2010) emphasize that states and community organizations alike should develop programs that

foster increased family and cultural ties as means to promote the resilience of a community.

For some, community resilience is a step in the right direction (Manyena, 2006), others such as Joseph (2013) are skeptical to whether the concept is being championed by governments as a method of cutting disaster management budgets and shifting responsibility to communities. There are also practical challenges to overcome when policies target communities since communities are not static entities. While they naturally change and develop over time, this is especially true in the period before, during and after a disaster. To develop policies that consider this shifting nature of communities, many non-governmental and state entities have targeted informal and formal groups that makeup communities as a tangible vehicle for policy dissemination. The promotion of group cohesion and the pursuit to promote policies from the bottom-up has led many seeking to enhance community resilience to focus on social capital development as a method to enact meaningful change.

Even though the concept of community resilience is evolving, the change in rhetoric and action has the potential to energize the fields of disaster management and community development to produce better outcomes for people around the world when confronted with complex challenges created by disasters. Communities affected by disasters cope better when they view themselves as capable and empowered to confront challenges versus victims awaiting assistance from external authorities. In the past, community members and local organizations were deemed unqualified to provide adequate relief to community strife, but the concept of community resilience reverses this

notion by seeking to focus on the strength and skills already contained in community networks as a valuable disaster management resource.

D. Social Capital

Since social capital and community resilience have the opportunity to change the way disasters are managed, it is important to provide clarity on what exactly the concepts represent. Unfortunately, this pursuit of clarity is impeded by the fact that there is no agreed upon definition of social capital. Scholars are divided whether social capital is a value-based or resource-based concept. There is more consensus in the literature surrounding the three different domains in which the facilitation of social capital can occur; bonding, linking and bridging. Bonding represents the social interaction between people who are related to each other, bridging occurs when individuals establish connections with people of different backgrounds than themselves, while linking refers to the connections between regular citizens and decision-makers.

In terms of disaster resilience, social capital is most commonly promoted as a resource-based concept that has the potential to empower and mobilize community members to take over roles traditionally carried out by state entities. However, in terms of the normative values associated with social capital such as trust and reciprocity, trust is actually an explanatory variable for cooperation between community members, and therefore the construction of social capital. Further, trust incorporates more than just beliefs, the concept signals preferences for the intent of community cooperation.

While there is little direction provided in the literature on how to boost trust and cooperation between community members, there is evidence to support that non-profit organizations and community associations play a large role in the production and mobilization of social capital at the local level. The frequent interaction facilitated by these entities creates an environment where trust can spread between members and therefore throughout a community. An important resource to non-profit organizations and associations is volunteers. Volunteerism is closely related to the construction of social capital because not only does it represent valuable man hours dedicated to community service but it shows a willingness to contribute to putting a community on a positive trajectory. When individuals have a wider social network, and have a diverse set of friendships and acquaintances they are more likely to engage in community volunteerism. The development of a strong reserve of social capital is key during times of normalcy, in order to most effectively be deployed during times of crisis. The notion of community resilience urges policymakers to direct resources to creating strong communities before disasters strike.

E. The Relationship Between Community Resilience and Social Capital

Community-based resources and local-level social capital are vital ingredients in the community resilience equation. A growing body of research has come to recognize the important contribution of social capital to the field of disaster management. Social capital creates an "interpersonal infrastructure" that can be utilized during an emergency to provide needed services such as psychological support, help in housing restoration, exchange of information, and child care. Social capital is a driving force behind community resilience, because no investment in physical infrastructure can shield a

community from the difficult challenges created by disasters. Despite the growing realization and recognition of the importance of social capital, the majority of government disaster management resources is still funneled into federal and state agencies for disaster response instead of local entities who are embedded in the communities during the entirety of the disaster cycle.

In many documented cases, the utilization of social capital was key to promoting community resilience in the aftermath of a disaster. Rivera and Nickels' (2014) experience with community mobilization after Hurricane Katrina further solidified the notion that governments alone are incapable of solely providing disaster relief, and that individuals must be prepared to spearhead the revival of their communities. In this specific case, a Catholic parish assumed the leadership of an affected community's path towards a return to normalcy. Especially as government budgets continue to shrink, communities around the world must prepare to access and build on existing resources contained in communities to confront disasters because often times a government response does not provide a comprehensive enough solution to complex problems.

While social capital is key to a community's resilience during the disaster response period, LaLone (2015) observes that developing social capital before a disaster occurs is incredibly important in preparing communities to confront future threats. In her research she hypothesized that a strong culture of reciprocity and mutual assistance during times of normalcy was instrumental to a community's mobilization effort after a tornado destroyed homes, businesses, and critical infrastructure. The foundation of social capital before the tornado contributed to the community resilience displayed in the aftermath of the crisis in a manner that eventually overtook the state response. Community capacity in the form of

social capital construction must be at the forefront of disaster management policy in order for the meaningful progression of disaster-related research and the fulfillment of best practices. Further research on community resilience and the impact of social capital should seek to evaluate the role of social capital in communities during times of normalcy. While the mere existence of social capital does not result in the resilience of a community, disaster management officials need to adopt a more nuanced approach that integrates community resources and the complexity of context specific solutions.

F. How to Build Resilience

Beyond the importance of providing clarity to concepts that lack scholarly consensus such as community resilience and social capital, there is also a great need to glean practical recommendations from the literature for the advancement in the field of community development and disaster management. I have uncovered three strategies to boost community resilience through social capital development. The three core strategies that can be used are; 1.) making communities stronger through social cohesion, 2.) expanding community networks, and 3.) demographics-conscious decision making.

1. The Importance of Social Cohesion

Communities are more resilient when people frequently interact and there is widespread trust. In terms of straying from state-centered approaches, community meetings that lead to the sharing of responsibilities and resources can serve as an effective platform for citizens to voice opinions and impact public decision-making. Activities such as block parties, sports teams, support groups, and after school programs for children can

promote community resilience through increased social interaction. The intersection of community resilience and the role of social cohesion represent the incorporation of activities and venues that are not traditionally associated with disaster risk reduction.

2. Expanding Community Networks

While social cohesion is extremely important to community disaster resilience, the same truth holds for the role of community institutions. The most common institutions in communities are churches and schools, and therefore have become valuable resources for communities in their pursuit of resilience, and often serve as the backbone of social capital mobilization in the aftermath of a disastrous event. Similar to networks of church members, the very nature of the school system provides vast networks of increased social connections between students, parents, teachers, and sports coaches.

Non-profit organizations play an important role in increasing the strength of community stakeholders. It is important that community organizations work towards a process of continued improvement and renewal in order to best fill in gaps in services to vulnerable citizens. In terms of creating stakeholders entirely dedicated to disaster risk reduction, there is a need to create disaster assistance councils as means to evaluate and bolster potential community resources in times of normalcy and crisis. Such councils could work proactively to garner the support of the private sector as means to enhance cooperation and economic development. The private sector plays an important role in enhancing the socioeconomic state of communities. The sector can also provide opportunities such as apprenticeships and vocational exchange programs can promote

entrepreneurship, and therefore aid the process of communities becoming better positioned economically and socially to confront future threats.

3. Demographic Considerations

In addition to the importance of social cohesion and expanding networks, a large component of community resilience program development involves observing how trauma impacts different demographics. Urban planners and emergency managers must acknowledge that areas with a higher concentration of older adults will by default be less resilient to hazards. Therefore, the need to maintain demographic diversity is beginning to become an important aspect of community resilience. Apart from age, gender, specifically targeting women has become an important consideration in promoting community resilience. This is because women are more likely to create and sustain social networks, and they are most commonly take the responsibility to care for the most vulnerable people in a family (children and the elderly). Further, studies have found that enabling women to become disaster risk communicators is an effective way to prepare communities to experience hardship.

G. Conclusion

The concepts of resilience, community resilience, and social capital are fundamentally changing the rhetoric and theories that drive the practices of states, international aid and service delivery organizations in their quest to decrease the negative outcomes created by disasters around the world. Yet, these concepts do not have agreed on definitions or consensus on their main components. This clouded sense of clarity has resulted in policy failure. The stakes are high and the need for effective policy has never

been so great, in the last twenty years, disasters have affected 64% of the world's population, with 95% of the people who lost their lives in disasters coming from developing countries. While the Hyogo Framework, and its emphasis on resilience, was heralded by some as a document that represented the needed paradigm change in the fields of community development and disaster management, the main theory behind the policies was a trickle down dispersal of authority and resources to local communities. As outlined in the Sendai Framework, many times local communities failed to benefit from any positive change in disaster management practices as a result of the Hyogo Framework. In order to properly guide future policy and research, scholars in the field must continue to search for clarity in the terms they use to package new strategies. There also needs to be more of an effort from scholars and practitioners to develop and share practical recommendations on communities can be more resilient to disasters in a way that lifts the concept from theory to practice.

This thesis has attempted to dissect the concepts of resilience, community resilience and social capital for the purpose of filling in this important gap in the literature. Further, to provide an alternative to the shortcomings of prior resilience-building polices, which have failed to concentrate on community-based solutions. State-centered approaches have left many communities weak prior to disasters, failed to provide needed services during disasters, and have led to the withdrawal from communities before a return of the status quo is reached. In order to involve communities in the disaster management process, as recommended by the Sendai Framework, one must focus on the strengths and skills of community members and resources already contained at the local level. The concepts of social capital and community resilience complement each other because both

seek to focus on the resources and skills already contained in communities as a valuable disaster management resource. Informal networks of family members, friends, co-workers and peers are vital to generating the needed social cohesion that can be deployed during crisis situations. Formal entities such as community groups and non-profit organizations can provide a structure for continued community enhancement and progression of living standards. Social capital is instrumental in the process of communities becoming more resilient to disasters. When policies reflect this reality, and seek innovative solutions to translate national frameworks into local action, and build on the capacities already contained at the local level, the more resilient communities will be to disasters.

REFERENCES

Abom, B. (2004). Social capital, NGOs, and development: A Guatemalan case study. *Development in Practice*, *14* (3), 342–353.

Acosta, J. D., Chandra, A., & Ringel, J. S. (2013). Nongovernmental Resources to Support Disaster Preparedness, Response, and Recovery. *Disaster Medicine and Public Health Preparedness*, *7*(04), 348–353.

Adams, T. M., Bekkem, K. R., & Toledo-Durán, E. J. (2012). Freight resilience measures. *Journal of Transportation Engineering*, *138*(11), 1403-1409.

Adger, Hughes, Folke, Carpenter, and Rockström. (2005). "Social-Ecological Resilience to Coastal Disasters." *Science*, *309* (5737), 1036–39.

Agani, F., Landau, J., & Agani, N. (2010). Community-building before, during, and after times of trauma: the application of the LINC model of community resilience in Kosovo. *American Journal of Orthopsychiatry*, *80*(1), 143.

Ainuddin, S., & Routray, J. K. (2012). Earthquake hazards and community resilience in Baluchistan. *Natural Hazards*, *63*(2), 909–937.

Alaimo, K., Reischl, T. M., & Allen, J. O. (2010). Community gardening, neighborhood meetings, and social capital. *Journal of Community Psychology*, *38*(4), 497–514.

Albrito, P. (2012). Making cities resilient: Increasing resilience to disasters at the local level. *Journal of Business Continuity & Emergency Planning*, *5*(4), 291–297.

Adler, P. S., & Kwon, S. W. (2002). Social capital: Prospects for a new concept. *Academy of Management Review*, *27*(1), 17-40.

Aldrich, D. P., & Meyer, M. A. (2015). Social Capital and Community Resilience. *American Behavioral Scientist*, *59*(2), 254–269.

Allen, Craig R, Graeme S Cumming, Ahjond S Garmestani, Phillip D Taylor, and Brian H Walker. (2011). Managing for Resilience. *Wildlife Biology 17* (4), 337–49.

Amundsen, H. (2012). Illusions of Resilience? An Analysis of Community Responses to Change in Northern Norway. *Ecology and Society*, *17*(4), 46.

Andrew, R. (2012). Building community resilience. *Proceedings of the Institution of Civil Engineers-Civil Engineering*, *165*(6), 59–64.

Anh, T., Phong, T. & Mulenga, M. (2014). Community consultation for climate resilient housing: A comparative case study in Vietnam. *International Journal of Disaster Risk Reduction*, *10, Part A*(0), 201–212.

Armstrong, D. (2000). A survey of community gardens in upstate New York: Implications for health promotion and community development. *Health & Place*, *6*(4), 319-327.

Bankoff, G. (2007). Dangers to going it alone: social capital and the origins of community resilience in the Philippines. *Continuity and Change*, *22*(02), 327–355.

Barishansky, R. M., & Mazurek, A. (2012). Public Health's Role in Understanding Community Resilience. *Journal of Homeland Security and Emergency Management*, *9*(1), 3.

Barrios, R. E. (2014). "Here, I'm not at ease": anthropological perspectives on community resilience. *Disasters*, *38*(2), 329–350.

Bhamra, Dani, and Burnard. (2011). Resilience: The Concept, a Literature Review and Future Directions. *International Journal for Production Research, 49*(18), 5375–93.

Boin, A., Comfort, L. K., & Demchak, C. C. (2010). The Rise of Resilience. *Designing resilience: Preparing for extreme events*, 1.

Boon, H. J. (2014). Disaster resilience in a flood-impacted rural Australian town. *Natural hazards*, *71*(1), 683-701.

Bowles, S., & Gintis, H. (2002). Social Capital and Community Governance. *The Economic Journal*, *112*(483), F419–F436.

Breton, M. (2001). Neighborhood Resiliency. *Journal of Community Practice*, *9*(1), 21–36.

Briske, Bestelmeyer, Stringham, and Shaver. (2008). Forum: Recommendations for Development of Resilience-Based State-and-Transition Models. *Rangeland Ecology & Management* 61 (4): 359–67.

Brunner, Ronald D. (1994). Restructuring for Resilience: The NASA Model. *Journal of Policy Analysis and Management* 13 (3): 492–505.

Bulley, D. (2013). Producing and Governing Community (through) Resilience. *Politics*, *33*(4), 265–275.

Carpenter, A. (2014). Critical Infrastructure Resilience: A Baseline Study for Georgia. *American Society of Civil Engineers*, (1), 186–197.

Chandra, Williams, Plough, Stayton, Wells, Horta, & Tang (2013). Getting actionable about community resilience: the Los Angeles county community disaster resilience project. *American Journal of Public Health*, *103*(7), 1181-1189.

Chen, Wu, & Wu (2009). Resilient capacity assessment for geological failure areas: examples from communities affected by debris flow disaster. *Environmental geology*, *56*(8), 1523-1532.

Cheshire, Esparcia & Shucksmith (2015). Community resilience, social capital and territorial governance. *Journal for Depopulation and Rural Development Studies*, *49* (18), 7–II.

Coffé, H. (2009). Social Capital and Community Heterogeneity. *Social Indicators Research*, *91*(2), 155–170.

Comer, J. P. (2015). Developing Social Capital in Schools. *Society*, *52*(3), 225–231.

Cox and Perry. (2011). Like a Fish Out of Water: Reconsidering Disaster Recovery and the Role of Place and Social Capital in Community Disaster Resilience. *American Journal of Community Psychology*, *48*(3-4), 395–411.

Cutter, Ahearn, Amadei, Crawford, Eide, Galloway, and Zoback (2013). Disaster resilience: A national imperative. *Environment: Science and Policy for Sustainable Development*, *55*(2), 25-29.

DeFilippis (2001). The myth of social capital in community development. *Housing Policy Debate*, *12*(4), 781–806.

Denison & Mishra. (1995). Toward a Theory of Organizational Culture and Effectiveness. *Organization Science 6* (2), 204–23.

Dufresne & Clair. (2008). Moving beyond Media Feast and Frenzy: Imagining Possibilities for Hyper-Resilience Arising from Scandalous Organizational Crisis. *Law and Contemporary Problems, 71* (4), 201–14.

Dynes, R. (2006). Social Capital: Dealing with Community Emergencies. *Homeland*

Security Affairs, *2*(2).
Fan, M. (2015). Disaster governance and community resilience: reflections on Typhoon Morakot in Taiwan. *Journal of Environmental Planning and Management*, *58*(1), 24–38.
Fiskel (2003). Designing Resilient, Sustainable Systems. *Environmental Science Technology*, *37*, 5330–39.
Fitzpatrick, T., & Molloy, J. (2014). The role of NGOs in building sustainable community resilience. *International Journal of Disaster Resilience in the Built Environment*, *5*(3), 292-304.
Folke, C. (2006). Resilience: the emergence of a perspective for social–ecological systems analyses. *Global environmental change*, *16*(3), 253-267.
Forbes, K., and Zampelli, E. (2014). Volunteerism The Influences of Social, Religious, and Human Capital. *Nonprofit and Voluntary Sector Quarterly*, *43*(2), 227–253.
Fu, X., & Tang, Z. (2013). Planning for drought-resilient communities: an evaluation of local comprehensive plans in the fastest growing counties in the US. *Cities*, *32*, 60-69.
Galaz, V. (2005). Social-Ecological Resilience and Social Conflict: Institutions and Strategic Adaptation in Swedish Water Management. *Ambio,* 34 (7), 567–72.
Grootaert, C., Oh, G., & Swamy, A. (2002). Social capital, household welfare and poverty in Burkina Faso. *Journal of African Economies*, *11*(1), 4-38.
Gunderson, Lance H. (2000). Ecological Resilience--In Theory and Application. *Annual Review of Ecology and Systematics, 31*, 425–39.
Hamel, G., and Välikangas, L., (2003). The Quest for Resilience. *Harvard Business Review* 81 (9): 52–63.
Hart, Chris. (1998) The Literature Review in Research. *Doing a Literature Review: Releasing the Social Science Research Imagination*. London: Sage Publications, Print.
Holland, J. (2007). *Tools for institutional, political, and social analysis of policy reform: a sourcebook for development practitioners*. Washington D.C, World Bank Publications. Print.
Holling, C. S. (1973). Resilience and Stability of Ecological Systems. *Annual Review of Ecology and Systematics*, *4*, 1–23.
Horne, F., and Orr, J., (1997). Assessing Behaviors That Create Resilient Organizations. *Employment Relations Today,* 24 (4), 29–39
Houston, J., Spialek, M., Cox, J., Greenwood, M., and First, J. (2015). The Centrality of Communication and Media in Fostering Community Resilience: A Framework for Assessment and Intervention. *American Behavioral Scientist*, *59*(2), 270–283.
Joseph, J. (2014). The EU in the Horn of Africa: Building Resilience as a Distant Form of Governance. *Journal of Common Market Studies*, *52*(2), 285–301.
Kantur, D., & İseri Say, A. (2012). Organizational resilience: A conceptual integrative framework. *Journal of Management & Organization*, *18*(6), 762-773.
Kapucu, N., Hawkins, C. V., & Rivera, F. I. (2013). Disaster Preparedness and Resilience for Rural Communities. *Risk, Hazards & Crisis in Public Policy*, *4*(4), 215–233.
Khalafzai, A. K., & Nirupama, N. (2011). Building Resilient Communities through Empowering Women with Information and Communication Technologies: A Pakistan Case Study. *Sustainability*, *3*(1), 82–96.

Kizos, T., Detsis, V., Iosifides, T., & Metaxakis, M. (2014). Social Capital and Social-Ecological Resilience in the Asteroussia Mountains, Southern Crete, Greece. *Ecology and Society*, *19*(1), 40.

LaLone, M. (2012). Neighbors Helping Neighbors- An Examination of the Social Capital Mobilization Process for Community Resilience to Environmental Disasters. *Journal of Applied Social Science*, *6*(2), 209–237.

Larance, L. Y. (2001). Fostering social capital through NGO design- Grameen Bank membership in Bangladesh. *International Social Work*, *44*(1), 7–18.

Leaning, J., & Guha-Sapir, D. (2013). Natural disasters, armed conflict, and public health. *New England journal of medicine*, *369*(19), 1836-1842.

Lebel, L., Anderies, J. M., Campbell, B., Folke, C., Hatfield-Dodds, S., Hughes, T. P., & Wilson, J. (2006). Governance and the capacity to manage resilience in regional social-ecological systems. *Ecology and Society*, *11*(1), 19.

Ledogar, R. J., & Fleming, J. (2008). Social Capital and Resilience: A Review of Concepts and Selected Literature Relevant to Aboriginal Youth Resilience Research. *Pimatisiwin*, *6*(2), 25–46.

Lengnick-Hall, C. A., Beck, T. E., & Lengnick-Hall, M. L. (2011). Developing a capacity for organizational resilience through strategic human resource management. *Human Resource Management Review*, *21*(3), 243-255.

Luthar, S., Cicchetti, D., and Becker, B., (2000). The Construct of Resilience: A Critical Evaluation and Guidelines for Future Work. *Child Development* 71 (3): 543–62.

Luthar, S., Brown, P., (2007). Maximizing resilience through diverse levels of inquiry: Prevailing paradigms, possibilities, and priorities for the future. *Development and Psychopathology*, *19*(03), 931-955.

Kantur, D., & İseri Say, A. (2012). Organizational resilience: A conceptual integrative framework. *Journal of Management & Organization*, *18*(6).

Mallak, L., (1998). Putting Organizational Resilience to Work. *Industrial Management, 40* (6), 8–13.

Manyena, S., (2006). The Concept of Resilience Revisited. *Disasters, 30* (4), 434–50.

Mathbor, G., (2007). Enhancement of community preparedness for natural disasters The role of social work in building social capital for sustainable disaster relief and management. *International Social Work*, *50*(3), 357–369.

McEntire, D., Fuller, C., Johnston, C. W., & Weber, R. (2002). A comparison of disaster paradigms: The search for a holistic policy guide. *Public Administration Review*, *62*(3), 267-281.

Memari, H., Valikhani, M., Aghababaee Z., and Davali, M., (2013). The Effect of Positive Organizational Behavior of the Staff on Organizational Performance, Based on the Luthans Model in Public Organizations of Behbahan. *Interdisciplinary Journal of Contemporary Research In Business* 4 (9), 568–83.

Molin Valdés, H., and Lucini, B. (2013). Social capital and sociological resilience in megacities context. *International Journal of Disaster Resilience in the Built Environment*, *4*(1), 58–71.

Moore, M., Chandra, A., and Feeney, K., (2013). Building community resilience: what can the United States learn from experiences in other countries? *Disaster medicine and public health preparedness*, *7*(03), 292-301.

Mulyasari, F., & Shaw, R. (2013). Role of women as risk communicators to enhance disaster resilience of Bandung, Indonesia. *Natural Hazards*, *69*(3), 2137–2160.
Murphy, B. L. (2007). Locating social capital in resilient community-level emergency management. *Natural Hazards*, *41*(2), 297–315.
Norris, F. H., Stevens, S. P., Pfefferbaum, B., Wyche, K. F., & Pfefferbaum, R. L. (2008). Community Resilience as a Metaphor, Theory, Set of Capacities, and Strategy for Disaster Readiness. *American Journal of Community Psychology*, *41*(1-2), 127–150.
Oxley, M. C. (2013). A "people-centred principles-based" Post-Hyogo Framework to strengthen the resilience of nations and communities. *International Journal of Disaster Risk Reduction*, *4*, 1-9.
Paton, D., & Johnston, D. (2001). Disasters and communities: vulnerability, resilience and preparedness. *Disaster Prevention and Management: An International Journal*, *10*(4), 270–277.
Peterson, G., Allen, C. R., & Holling, C. S. (1998). Ecological resilience, biodiversity, and scale. *Ecosystems*, *1*(1), 6-18.
Pickett, S. T., McGrath, B., Cadenasso, M. L., & Felson, A. J. (2014). Ecological resilience and resilient cities. *Building Research & Information*, *42*(2), 143-157.
Poortinga, W. (2012). Community resilience and health: The role of bonding, bridging, and linking aspects of social capital. *Health & Place*, *18*(2), 286–295.
Putnam, R. D. (1995). Bowling Alone: America's Declining Social Capital. *Journal of Democracy*, *6*(1), 65–78.
Reich, J., (2006). Three psychological principles of resilience in natural disasters. *Disaster Prevention and Management: An International Journal*, *15*(5), 793-798.
Riad, J., Norris, F., and Ruback, R., (1999). Predicting Evacuation in Two Major Disasters: Risk Perception, Social Influence, and Access to Resources. *Journal of Applied Social Psychology*, *29*(5), 918–934.
Rivera, J., and Nickels, A., (2014). Social Capital, Community Resilience, and Faith-Based Organizations in Disaster Recovery: A Case Study of Mary Queen of Vietnam Catholic Church. *Risk, Hazards & Crisis in Public Policy*, *5*(2), 178–211.
Roxas, H. and Azmat, F. (2014). Community social capital and entrepreneurship: analyzing the links. *Community Development*, *45*(2), 134–149.
Sherrieb, K., Norris, F. H., & Galea, S. (2010). Measuring Capacities for Community Resilience. *Social Indicators Research*, *99*(2), 227–247.
Stark, A., and Taylor, M. (2014). Citizen participation, community resilience and crisis-management policy. *Australian Journal of Political Science*, *49*(2), 300–315.
Sternberg, T., and Batbuyan, B. (2013). Integrating the Hyogo Framework into Mongolia's disaster risk reduction (DRR) policy and management. *International Journal of Disaster Risk Reduction*, *5*(0), 1–9.
Stewart, G. T., Kolluru, R., & Smith, M. (2009). Leveraging public-private partnerships to improve community resilience in times of disaster. *International Journal of Physical Distribution & Logistics Management*, *39*(5), 343–364.
Tierney, K. (2013). "Only Connect!" Social Capital, Resilience, and Recovery. *Risk, Hazards & Crisis in Public Policy*, *4*(1), 1–5.
Thöni, C., Tyran, J., & Wengström, E. (2012). Microfoundations of social capital. *Journal of Public Economics*, *96*(7–8), 635–643.

United Nations Office of Disaster Risk Reduction. *Hyogo Framework for Action*. Hyogo, Japan: United Nations, 2000. Web.
United Nations Office of Disaster Risk Reduction. *Sendai Framework for Action*. Sendai, Japan: United Nations, 2015. Web.
Veil, S. R., & Bishop, B. W. (2014). Opportunities and Challenges for Public Libraries to Enhance Community Resilience. *Risk Analysis*, *34*(4), 721–734.
Walsh, F. (2007). Traumatic loss and major disasters: Strengthening family and community resilience. *Family process*, *46*(2), 207-227.
Whitham, M., (2012). Community Connections: Social Capital and Community Success. *Sociological Forum*, *27*(2), 441–457.
Wickes, R., Zahnow, R., Taylor, M., & Piquero, A. R. (2015). Neighborhood Structure, Social Capital, and Community Resilience: Longitudinal Evidence from the 2011 Brisbane Flood Disaster. *Social Science Quarterly*, *96*(2), 330–353.
Williamson, T. (2013). Beyond Social Capital: Social Justice in Recovery and Resilience. *Risk, Hazards & Crisis in Public Policy*, *4*(1), 28–31.
Wilson, J. (2000). Volunteering. *Annual Review of Sociology*, *26*, 215–240.
Wollebæk, D., & Selle, P. (2003). Participation and Social Capital Formation: Norway in a Comparative Perspective1. *Scandinavian Political Studies*, *26*(1), 67-91.
Zhang, W., and Lin, Y. (2010). On the principle of design of resilient systems–application to enterprise information systems. *Enterprise Information Systems*, *4*(2), 99-110.