Rev Austrian Econ (2017) 30:447–467
DOI 10.1007/s11138-016-0362-z

Social capital and social learning after Hurricane Sandy

Virgil Henry Storr[1] · **Stefanie Haeffele-Balch**[1] · **Laura E. Grube**[2]

Published online: 22 August 2016

Abstract The post-disaster context is one characterized by profound uncertainty. Those affected by the storm, or earthquake, or flood, must determine what strategies to pursue in response to the disaster and must find ways to coordinate their recovery efforts with others in their community. *Ex ante* it is not clear what strategies will be most effective. If communities are to recover after a disaster, community members must engender and engage in a process of social learning involving experimentation, communication, and imitation. This paper explores the post-disaster social learning process. Specifically, we focus on the importance of social capital in facilitating social learning after a disaster, including facilitating community members' ability to communicate their desire to return, to assess damage, to overcome barriers to rebuilding through collective yet voluntary action, and to learn from and imitate others' successes. Focusing on how this process took place after Hurricane Sandy in Rockaway, New York, especially within the Orthodox Jewish community, we examine how community groups (a) adapted existing organization structures and (b) created new procedures and imitated the successful actions of others in order to spur recovery.

Keywords Disaster recovery · Social learning · Social capital · Hurricane Sandy · Rockaway, NY

JEL classification B53 · D71 · D83 · Q54

✉ Laura E. Grube
grubel@beloit.edu

Virgil Henry Storr
vstorr@gmu.edu

Stefanie Haeffele-Balch
shaeffel@gmu.edu

[1] George Mason University, Fairfax, VA 22030, USA

[2] Beloit College, Beloit, WI 53511, USA

1 Introduction

Hurricane Sandy made landfall on the East Coast of the United States on Monday, October 29th, 2012. The storm is the second-largest Atlantic storm on record, having affected numerous Caribbean islands and states along the eastern seaboard. In the U.S., over 70 lives were lost, $50 billion in damages were incurred, and over 8.5 million households lost power (Blake et al. 2013). While the storm was downgraded from a hurricane to a post-tropical cyclone before hitting New Jersey and New York, the combination of 80 mph winds and a massive storm surge of up to nine feet of water devastated coastal communities (ibid.). On the Rockaway Peninsula—a relatively isolated peninsula in Queens, New York also known as the Rockaways—there was five to six feet of flood water, wide-spread power outages (120,000 were affected), and fires resulting from the storm.[1] Residents went weeks without power and heat and had to figure out others ways to assess damage, obtain resources, and recover.

Post-disaster environments are characterized by profound uncertainty. Those affected by hurricanes, for instance, must determine what strategies to pursue in response to the disaster and must find ways to coordinate their recovery efforts with others in their community. Since it is not obvious *ex ante* which recovery strategies are likely to be the most effective, if communities are to recover after a disaster, community members must engender and engage in a process of social learning involving experimentation, communication, and imitation. This paper explores the post-disaster social learning process. We focus on the importance of social capital in facilitating social learning after a disaster, including facilitating community members' ability to communicate their desire to return, to assess damage, to overcome barriers to rebuilding through collective yet voluntary action, and to learn from and imitate others' successes.

Although the literature on post-disaster community recovery has emphasized the importance of social capital and has highlighted the social learning process that occurs after disasters, there has been significantly less attention paid to the importance of social capital in facilitating social learning after a disaster. The literature on the role of social capital in facilitating disaster recovery has tended to stress social capital as a source of mutual aid and information exchange (Beggs et al. 1996; Hurlbert et al. 2000, 2001; Nakagawa and Shaw 2004; Chamlee-Wright and Storr 2009b; Aldrich 2011, 2012; Storr and Haeffele-Balch 2012). Additionally, the literature on post-disaster social learning processes has tended to focus on the actions of community leaders who find ways to navigate the uncertainty and complications of providing assistance, securing resources, and coordinating the return of displaced residents after a disaster (see, for example, Chamlee-Wright 2010). Studies have, however, found that community members can utilize their social networks to learn how to navigate the post-disaster environment (Chamlee-Wright and Storr 2009a, b, 2010, 2011; Chamlee-Wright 2010; Storr and Haeffele-Balch 2012; Grube and Storr 2014). This paper makes explicit the often implicit connection between social capital and social learning in the literatures on post-disaster community recovery.

The literature on post-disaster community recovery has also highlighted the capacity of religious organizations to help community members overcome the challenges

[1] Information on damage from report "Sandy and Its Impact" through NYC.gov, available at http://www.nyc.gov/html/sirr/downloads/pdf/final_report/Ch_1_SandyImpacts_FINAL_singles.pdf

associated with community revival after disasters. For instance, the congregation of the Mary Queen of Vietnam Roman Catholic Church, an ethno-religious Vietnamese-American community in New Orleans East, recovered more quickly after Hurricane Katrina than neighboring communities (despite having experienced significantly more damage) because of the efforts of religious and lay leadership in the church (Chamlee-Wright and Storr 2009b). Similarly, Chamlee-Wright (2015) has shown how pastors in New Orleans facilitated the delivery of relief services as well as longer term recovery efforts in their communities after Hurricane Katrina. Although there is now quite a sizeable literature on the role of religious groups after Hurricane Katrina, there has been little scholarship to date on the role of religious organizations after Hurricane Sandy. This paper helps to fill that gap.[2]

The paper proceeds as follows. Section 2 examines the literatures on social capital and social learning after disasters and explores how community leaders can utilize social capital to facilitate post-disaster social learning. Next, Section 3 provides an explanation of the research methods that we employ in the empirical section of the paper. Section 4, then, explores how the communities in the Rockaways, New York, were able to come together in order to respond and recover after Hurricane Sandy. The analysis presented here is based on qualitative interviews conducted during the summers of 2013 and 2014. Specifically, we focus on how community leaders in the Orthodox Jewish community in the Rockaways utilized available social capital to facilitate social learning and so post-disaster community recovery after Hurricane Sandy. Section 5 offers concluding remarks.

2 Literatures on social capital and the process of social learning after disasters

There are now quite sizeable literatures on the importance of social capital in facilitating post-disaster community recovery as well as the social learning process that community members rely on after disasters. Social capital, a term first thoroughly examined in the social sciences by Bourdieu (1985), has been used to describe the resources that individuals have access to because they belong to certain groups.[3] Woolcock (2001) identifies three categories of social capital: bonding (i.e. the connections between members of close-knit homogenous groups), bridging (i.e. ties between members of heterogeneous groups), and linking (i.e. connections among members from very different social settings or different positions of power within a community). Not surprisingly, scholars have found that social capital can promote community recovery after disasters, providing emotional support (Elliott and Pais 2006; Aldrich and Meyer 2015), enabling the exchange of

[2] In section 5 we discuss (briefly) how government assistance fits into the discussion of social learning. Otherwise, we do not focus on the role of various government entities in post-disaster response and recovery (e.g. the National Guard, Federal Emergency Management Agency, and the National Flood Insurance Program).

[3] Putnam popularized the term social capital in his 2000 book, *Bowling Alone*. Putnam, however, has sometimes used social capital to refer to the level of trust in society, or levels of civic engagement. In his 1995 article with Helliwell on economic growth in Italy, for example, the authors adopt an index of social capital that includes newspaper readership, sports and cultural associations, and voter turnout. For our purposes, we stay closer to the definitions offered by Bourdieu (and Coleman 1988). An interested reader may want to consult Portes (2000) on the two meanings of social capital (article has the same title).

information (Beggs et al. 1996; Chamlee-Wright and Storr 2009b), and making financial and other resources available (Bolin and Stanford 1998; Nakagawa and Shaw 2004; Aldrich 2012). Further, numerous studies have found that family members and faith communities (i.e. bonding social capital) are an important source of immediate assistance following disaster, and also play a key role in the decision to return and rebuild (Hurlbert et al. 2000, 2001; Chamlee-Wright and Storr 2009b). Others have pointed to the importance of bridging and linking social capital to access extra-community resources (Hawkins and Maurer 2010; Storr and Haeffele-Balch 2012).

Disaster victims utilize social capital to facilitate social learning after a disaster. If social capital facilitates the individual interactions, social learning refers to the ways in which those interactions contribute to enhanced coordination. Within sociology, social learning has been used to describe the processes through which organizations and communities learn to solve collective challenges. As Webler et al. (1995) explain, social learning involves the cognitive enhancement of group/community members (i.e. their acquisition of knowledge about the problems they face and strategies to overcome them) as well as the moral development of group/community members (i.e. improvements in their judgments of right and wrong).[4]

The literature on social learning after disasters has focused on how social entrepreneurs bring about post-disaster recovery by making use of non-price signals about what community members desire and which recovery strategies are most likely to be successful. Chamlee-Wright (2010), for instance, has described the important role that community leaders played in promoting social coordination and community recovery throughout the Greater New Orleans region after Hurricane Katrina. Similarly, Storr et al. (2015) explain how social entrepreneurs relied on their ability to attract donations and volunteers as well as client demand to determine which courses of action to pursue. These social entrepreneurs provide needed goods and services and signal to disaster victims that community recovery is already underway. While Chamlee-Wright (2010) and Storr et al. (2015) both stress the importance of social capital for community recovery and focus on how social entrepreneurs promote post-disaster community return by restoring disrupted social networks, they do not highlight the role of social capital in facilitating social learning after a disaster. The connection between social capital and social learning has remained implicit in these studies.

One reason that research on post-disaster recovery might have left the relationship between social capital and social learning implicit is because that connection is obvious in many respects.[5] Social learning is learning that results from social interactions and

[4] The market order is perhaps the quintessential social learning process; however, in the market, prices facilitate exchange. As Chamlee-Wright and Myers (2008: 152) explain, "Social learning is the phenomenon in which society achieves a level of coordination and cooperation that far exceeds the coordinating capacity of any individual or group of individuals within society."

[5] Another reason that post-disaster research might not have explicitly addressed the connection between social capital and social learning is that research has explored this relationship in mundane times. Burt (2001), for instance, has argued that social entrepreneurs can improve upon existing social networks by finding and exploiting informational opportunities within and across social networks. As Burt (ibid.) explains, in environments where transactions are complex and information is imperfect, individuals may decide to imitate others in their social network. They may imitate those who have a history of success (i.e. reputation) or those who have received positive feedback. Through these innovations and imitations, social learning can take place throughout the community, signaling which procedures and actions are likely to be successful and which are not.

involves the learning that takes place within groups. Social capital encompasses the social networks to which individuals belong. As such, there is a clear connection between social capital and social learning. Social learning necessarily involves leveraging social capital. However, there is potentially much to gain by making explicit what has previously been implicit.

Disaster victims utilize social capital to facilitate social learning after a disaster in several ways. Social learning requires the transmission/communication of information, improvement in individuals' judgments as a result of learning from others, and imitation of successful others. Specifically, displaced disaster victims can utilize their social networks to (a) communicate with key others their desire and plans to return and rebuild; (b) aid them in assessing the damage to their homes and businesses and deciding on a strategy for repairing the damage; (c) help them to overcome barriers to rebuilding through collective yet voluntary action; and, (d) learn from and imitate others' successes. This post-disaster social learning often results in (1) community organizations altering their existing structures in response to information and insights garnered through their social networks, and (2) community leaders sharing and adopting best practices from successful groups in nearby neighborhoods.

Post-disaster recovery presents a collective action challenge to those displaced by the disaster (Chamlee-Wright and Storr 2009b; Storr et al. 2015). One key question that disaster victims need answered before committing to return is whether or not others from their neighborhoods, churches, and community organizations will also return. One key challenge that displaced disaster victims must overcome is locating and communicating with those key others. If community members do not find ways to overcome this challenge and discover the answers to this key question, they will not commit to returning and rebuilding. Community members can, however, utilize their social networks to communicate their plans to return to members of their network. Community members can also utilize their social networks to learn about the plans of others in their network who were displaced by the disaster. These others might be individuals who, because of the disaster, are difficult to communicate with directly or individuals who are only weakly connected or are multiple nodes away in the network. Chamlee-Wright and Storr (2009a), for instance, examine how the Vietnamese-American community in New Orleans East was able to return and rebuild quickly after Hurricane Katrina by relying on the extensive network between the leadership and parishioners of the Mary Queen of Vietnam (MQVN) Church. Father Vien, the church's pastor at the time, was able to visit displaced residents at multiple evacuation sites in the weeks following Katrina, share with them details about how others had weathered the storm, and encourage his displaced parishioners to return and rebuild. Nakagawa and Shaw (2004) explain how social networks and a community development organization in the neighborhood of Mano in Japan, five kilometers west of Kobe, were able to share information about rebuilding efforts and even published a weekly community newsletter following the 1995 earthquake. Through various methods of communication, the development organization and other community groups signaled a strong return.

Another set of questions that disaster victims will want to have answers to before committing to return concerns the level of damage their homes and businesses sustained and the strategies for repairing the damage that are most likely to be successful. Assessing the extent of the damage is more difficult than it might appear at first blush. Wind damage from tornadoes and hurricanes can cause structural damage

to buildings and flooding can cause damage, like mold, that is difficult to detect with the naked eye and to identify without particular skills. Additionally, identifying the viable strategies for recovery after a disaster and deciding between them can be quite daunting. The carpenters, electricians, engineers, and contractors that disaster victims must rely on to figure what repairs have to be made to their homes and businesses (and to repair them) are sometimes members of their social networks and are often located with the aid of members of their social networks. Johannisson and Olaison (2007), for instance, examined the role of entrepreneurship after Hurricane Gudrun in Sweden and found that "emergency entrepreneurship" relied on bonding social capital to restructure and integrate efforts after the storm.[6] And, Smith and Sutter (2013) explain how a local insurance agent helped his customers and neighbors with claims after a tornado destroyed homes and businesses in Joplin, Missouri.

In addition to the challenge of rebuilding their damaged homes and businesses, disaster victims often face other barriers to recovery. Disaster recovery often depends on the restoration of public and community goods and services. Moreover, disaster recovery can also require navigating a difficult and inflexible bureaucratic process and even overcoming regulatory barriers that can stand in the way of recovery. For instance, the Bring New Orleans Back Commission, which was tasked with developing a comprehensive plan for New Orleans' recovery after Hurricane Katrina, originally designated some the communities that suffered the most damage as potential green space and suggested that some displaced residents not be allowed to rebuild unless they could prove that their neighborhoods were viable. In several of these neighborhoods, social networks proved to be important in teaching displaced residents about the threat to their community's rebuilding efforts and sharing information about how they might work together collectively to overcome that threat. For instance, Chamlee-Wright and Storr (2011b) describe how the MQVN community, organized around the Catholic Church and led by Father Vien, were able to assemble 2000 parishioners for Sunday mass two months following the storm, and therefore illustrated the need for electricity to the local power company. When the city announced plans to locate a landfill near MQVN, the community rallied together, and members of the Vietnamese-American Youth Leadership Association (VAYLA) protested in front of City Hall (ibid.). In another example, Storr and Haeffele-Balch (2012) explain how in initial plans for the city Broadmoor was slated to become green space. One week after the plans were released, the Broadmoor Improvement Association (BIA), led by LaToya Cantrell, held a meeting on the fate of the community. In addition, the BIA wrote a petition against the "green dot," created a website to assist in outreach and rebuilding support, and organized their own Revitalization Committee to bring planning and rebuilding under the community's control (BIA 2006).

Finally, disaster victims can learn from and imitate those members of their social networks that have successfully navigated the recovery process. Those who return and rebuild most quickly not only serve as focal points around whom

[6] While Johannisson and Olaison (ibid.) conclude that bonding social capital is the only type that can be immediately "put to work," our analysis shows that it can be used in conjunction with bridging and linking social capital to spur community recovery.

others can coordinate their recovery efforts, but also as guides through the the recovery process. Patterson et al. (2010) emphasize the importance of community and social capital in disaster decision-making and seek to develop a model which identifies the role of community in risk perception, evacuation (e.g. residents often look to their neighbors in deciding whether to evacuate), rebuilding (e.g. residents share information about how to eliminate mold, what contractor to use, or what permits are required), and recovery. Smith and Sutter (2013: 176) describe how businesses in Joplin, Missouri met together at the local chamber of commerce and used their network to share "space, expertise, services, and goods" to ensure successful recovery. Further, recognition of successful strategies following disasters also inform preparation for future disasters and other challenges. Aldrich (2012: 101) notes how residents in Tamil Nadu, India recognized that a neighboring community had made use of a local governance system (uur panchayat) to coordinate relief following the 2004 tsunami, and upon seeing the successful coordination, decided to organize a panchayat of their own.

Post-disaster community recovery depends on social learning and social learning depends on social capital. The ties that bind community members to each other and community leaders to those outside their communities facilitate necessary social learning that can quicken post-disaster recovery. The rest of the paper examines how communities in the Rockaways, New York utilized existing social capital to address emergent needs and how social learning took place within those communities after Hurricane Sandy. We argue that not only is bonding social capital critical for facilitating social learning, but linking social capital (i.e. the social links between members of different social groups) is a vital mechanism for social learning in the midst of disaster recovery. The experiences in the Rockaways after Hurricane Sandy highlight the importance of social capital to social learning in the post-disaster context.

3 Research methodology

Our research is an extension of what began as the Gulf Coast Recovery Project, carried out by Mercatus Center scholars and researchers following Hurricane Katrina. The Gulf Coast Recovery Project sought to examine the political, economic, and social aspects of recovery and adopted qualitative methods (primarily in-depth interviews) to investigate post-disaster community redevelopment across New Orleans (Boettke et al. 2007). As social scientists trained in the Austrian tradition, the scholars who participated in this project were eager to understand how individuals on the ground were making plans, forming expectations, carrying out action, and learning throughout the process. Further, these scholars were interested to see how entrepreneurial action contributed or did not contribute to larger social coordination. In order to closely examine and interpret individual actions – to access these individual plans, how expectations are formed, and what is learned – investigators adopted the method of in-depth interviews. As Chamlee-Wright (2011: 160) has argued, qualitative methods can serve as "an essential component of operationalizing an economics of meaning." According to Chamlee-Wright (ibid.), investigators, through

proximity with the individual and the use of structured, though open-ended questions, can begin to develop a more rich understanding of decision-making on the ground and how it contributes to larger social change.[7]

Similarly, we rely on qualitative data in our study, derived from in-depth interviews conducted in Queens, New York on the Rockaway Peninsula during the summers of 2013 and 2014. The Rockaway Peninsula was selected as the location for interviews because various socioeconomic indicators for the area were roughly equivalent to New York City-wide averages and the damage sustained was similar to the damage found in other areas. In addition, the communities on the Rockaway Peninsula contain residents who reside there full-time, unlike some of the coastal areas (particularly in New Jersey) that are primarily second homes. According to 2010 Census figures, the high school graduation rate for the Peninsula is approximately 78 % (compared to the City average of 80.1 %) and median household income is $49,498 (City is $52,737), with a poverty rate of 20.8 % (City is 20.6 %).[8] The City averages are only slightly better than those for the Peninsula. The damage sustained was not as significant as in some communities (e.g. Staten Island), however, flooding did result in property losses.

The interview guides used after Hurricane Sandy are based off of the interview guides used for the Gulf Coast Recovery Project. The guides are constructed to ask questions about pre-storm history (e.g. How long have you lived in the community? What was the community like before Hurricane Sandy?), storm-story (e.g. Did you evacuate? How did you weather the storm?), and post-Sandy life. Because of the robust activities among civil society groups following Hurricane Katrina documented by the Gulf Coast Recovery Project (for example, see Chamlee-Wright and Storr 2009a, b; Storr and Haeffele-Balch 2012; Grube and Storr 2014), and our own interests on the role of civil society post-disaster, we focused our interviews on residents and non-profit groups. We interviewed several different organizations, including Catholic Charities Brooklyn and Queens, the Rockaway Youth Task Force (a group made-up of young leaders on the Rockaway Peninsula), members of the Orthodox Jewish community, and a club that organized return and rebuilding among the surfing community. The organizations were selected from newspaper and online research of activity in the Rockaway Peninsula, and we deliberately sought out groups that served different demographic groups.

As we were walking the communities and interviewing several residents of the Orthodox Jewish community, it quickly became clear that the community had carried out a well-organized response to Hurricane Sandy. In order to understand the relationships and various organizations involved in the effort, we elected to do a deeper dive into the Orthodox Jewish community rather than continuing to broaden our study. In this case, we intentionally followed up with references named in earlier interviews. The individual stories provided information on how relationships and experiences of the community were utilized to coordinate a collective recovery. This discovery process revealed the embedded nature of the Orthodox Jewish community, where residents who are members of different synagogues are nonetheless connected by networks of rabbis,

[7] An interested reader might go to Chamlee-Wright's (2011) article, where she articulates the connection between the interpretive turn in economics (of which Chamlee-Wright's teacher, Lavoie, was a key voice) and the use of qualitative methods in economics.

[8] From 2010 Census data for zip codes 11,691, 11,697, and 11,694. Available online at http://factfinder2.census.gov/faces/nav/jsf/pages/community_facts.xhtml

schools, and various club goods that their religious leaders provide. Further, we learned how this community engages with other groups in the broader Rockaways. These insights into the community highlighted the importance of personal relationships and interactions in post-disaster recovery that we could only gain from talking to residents and community leaders.

In total, we conducted sixteen interviews. The interviews lasted between 30 min and 2 h. The interviews were recorded and then transcribed. Whenever a person's true name is important, or details of the individual presented divulge their identity, we use their actual name. Otherwise, we use pseudonyms for our interview subjects, which are denoted with the "†" symbol. In addition to the interview data, we used secondary sources (e.g. news stories, magazine articles, and written histories) to find information and corroborate data.

4 Social learning in Rockaways, New York

The Rockaway Peninsula is the outer most area of the Borough of Queens in New York City. The Peninsula was once a popular summer resort getaway for wealthy New Yorkers, but has since become a mixed-income residential area, including numerous public housing buildings as well as middle- and upper-class residential areas. However, over a third of the seven square miles of land on the Peninsula is still dedicated to recreational use and open space, including Fort Tilden and the Rockaway Boardwalk and Beach, which are frequently utilized by New Yorkers seeking a daytrip getaway. The Rockaways population was just under 115,000 people in 2010, and the percentage of the population on income assistance is roughly the same as New York City as a whole, at 35 % in 2013.[9]

Far Rockaway is one of the largest communities on the Peninsula, with roughly half of the total population. According to a profile in the *New York Times* in 2008, Far Rockaway consists of a large immigrant population as well as a large Orthodox Jewish community constituting approximately one fifth of the population (Hughes 2008). The community—diverse in terms of race, ethnicity, religion, and income—hosts commuters who work in New York City as well as locals that maintain a relatively isolated life out on the Peninsula.

The Orthodox Jewish community has thrived in the area, forming dozens of synagogues, schools, and other organizations. Residents live within walking distance of their synagogue and shop in the local kosher groceries and restaurants. Organizations have been created to help residents abide by the laws of the Torah and navigate medical, legal, and financial issues, including the Hatzalah volunteer ambulance service and Achiezer Community Resource Center.[10] This close-knit community had numerous social networks to rely on after Hurricane Sandy, including a network of local rabbis and preexisting organizations like Achiezer as well as ties to the broader Orthodox Jewish community in New York City. Across town, there are neighborhoods consisting primarily of public housing units and apartment complexes where heterogeneous

[9] For these statistics and more, see the profile of Queens Community District 14, http://www.nyc.gov/html/dcp/html/neigh_info/qn14_info.shtml.

[10] For more information, see http://www.hatzalahrl.org/ and http://achiezer.org/.

groups have weak social connections. However, non-profit organizations, such as the Rockaway Youth Task Force, were able to utilize these weak ties to provide disaster assistance to the community.[11]

In both groups, community leaders were able to (a) utilize previously established networks and organizational structures to provide resources and information in the immediate aftermath of the storm and (b) create new initiatives to tackle pressing problems and imitated the successful efforts of others within their community. As the following examples will highlight, the strong ties of the Orthodox Jewish community enabled them to recover by capitalizing on their expertise and relationships without the need of much government assistance. Further, despite the loosely-connected heterogeneous character of more densely populated neighborhoods, community leaders were able to utilize their existing organizational structures and imitate the successful efforts of the Orthodox Jewish community to fill the gap of immediate assistance while they waited for formal reinforcements.

4.1 Altering existing organizational structures

4.1.1 Achiezer and the Community Assistance Fund

The Achiezer Community Resource Center is a crisis center in Far Rockaway, New York, which was established in 2009 as a multi-faceted support center for the Orthodox Jewish community in Far Rockaway. Rabbi Boruch B. Bender, the founder and president of Achiezer, decided to start the Center after experiencing a sudden illness and subsequent surgeries and hospital stays. He realized he could help others navigate the medical system, and soon Achiezer became a one-stop-shop for providing assistance with health, financial, and legal issues. The Center incorporates and utilizes the complex network of local rabbis, who refer clients, give advice, and assist the Center in providing goods and services to the community that are consistent with their religious beliefs.

Whenever unexpected issues arise, people turn to Achiezer for help. As Hurricane Irene approached in 2011, Achiezer received more than 500 phone calls asking for help in preparation of the storm. And Rabbi Bender made sure they could help, working with Hatzalah, the local volunteer ambulance service, to transport 70 disabled and elderly citizens to inland shelters (Bensoussan 2012). While Hurricane Irene did little damage to the area, it became clear that people would turn to Achiezer if a similar crisis arose.

As Hurricane Sandy approached, Rabbi Bender held a meeting at Achiezer with community leaders, organization representatives, and local officials on Sunday afternoon. At the meeting, they discussed contingency plans in case the storm proved more powerful than expected. Achiezer also issued email notifications with information about the storm including road closures, evacuation procedures, reports on damage, as well as resources for response and recovery. They started by utilizing their preexisting email database of roughly 9000 contacts, and over 1180 people requested to be added to list in the days following the storm. The next afternoon, as the storm came closer and as the weather got increasingly worse, the phone calls started coming in. That first night, Rabbi Bender estimates that they received 500 phone calls and coordinated assistance efforts as residents dealt with flooding, power outages, and

[11] For more information on the Rockaway Youth Task Force, see http://rytf.org/.

damage. After the Achiezer offices lost power and telephone service, they moved the entire operation to Rabbi Bender's house and set up in his dining room. For the next week, Achiezer fielded approximately 1500 phone calls a day and helped transport over 300 families whose houses had flooded to temporarily relocate to Brooklyn, Queens, and other locations (Bensoussan 2012).

The community's connections with other Orthodox Jewish communities across the country proved vital to getting resources. Three synagogues—the Young Israel of Wavecrest and Bayswater, the White Shul in Far Rockaway, and the Sh'or Yoshuv Institute in Lawrence—started getting volunteers and donations and became relief centers for the community. Achiezer helped field donations, secure generators, and distribute supplies. For example, kosher food came in from Brooklyn, Queens, and upstate New York, gas and generators were delivered from Baltimore, and trucks arrived to take damaged holy books and give them a proper burial, as required by religious doctrine and customs.

In order to coordinate the influx of monetary donations, Achiezer and the Davis Memorial Fund, reinitiated the Community Assistance Fund (CAF) bank account, which had previously been used to help community members during the recession.[12] They developed a structure for assessing claims and distributing funds, led by a three-person board of trustees. Further, they recruited local community members with needed expertise (for example, attorneys, an accountant, and a professional fundraiser). The CAF team also enlisted the help of 48 rabbis, located throughout Far Rockaway, to work as representatives to spread the word about the program and help residents apply for funding. The representatives served many functions during the process, often listening to people's stories, providing emotional support, and recommending contractors and vendors. Once residents filled out applications, the representatives submitted them to the board of trustees, who would review the applications and make final decisions on funding.

The CAF program was broken down into three phases.[13] The first phase, called emergency cash assistance, was $2000–3000 per household for generators and emergency resources. Phase 2, the coming home project, averaged around $10,000 per household and went toward removing water and mold and other repairs so families could return to their homes as quickly as possible. And finally, phase 3 provided major financial assistance for the rebuilding of homes damaged by the storm. Overall, $11.3 million was raised and distributed to over 1000 families. Less than a year after the storm, Rabbi Bender expressed pride in his team's ability to raise and distribute the funds quickly and efficiently,

> …the staggering fact from this, which I am extremely proud of, and I want you to watch the media and the Attorney General speaking about the fact that a lot of places who raised money for Sandy, but it still didn't get out. We raised it, $11 million, and we gave out $11 million and there was no overhead costs.

By utilizing the preexisting organization and networks of the community, Rabbi Bender turned Achiezer into a disaster crisis center that funneled and

[12] For more information see this video on CAF: http://youtu.be/DuVIA6iJ3lQ.
[13] For more information, see https://www.achiezer.org/images/news_ad.pdf.

distributed needed information and resources. This effort was possible given the strength and connections embedded within the Orthodox Jewish community, which utilized both the bonding and bridging social capital as Achiezer relied upon the network of rabbis to implement CAF to their various congregations.

4.1.2 Young Israel relief center

Within a day after the storm, the Young Israel of Wavecrest and Bayswater transformed into a relief center for the Bayswater community, where residents could get hot meals and supplies, access power and the internet, and coordinate efforts to clear debris and repair their homes. The synagogue is in many ways the center of the community and was the logical place for residents to turn to after a disaster.

Shaindle Russell, or Mrs. Russell as she is referred to by her neighbors, is a longtime resident of Bayswater. The morning after Sandy hit, she was relieved that her house was not flooded and went for a walk with a friend to check out the rest of the neighborhood. They came upon Agudas Yisroel of Bayswater and mourned the devastation of the synagogue and holy books. It was then that she realized the damage inflicted on her neighborhood. In a piece for *Jewish Action*, Mrs. Russell (2013) recalled, "That's when it hit me: my house was fine, my family was fine, but my neighborhood wasn't. I had to help." They then went to Young Israel and spoke to the Rabbi about addressing the need to provide electricity and food. As Mrs. Russell recalls, "I said, 'You are going to have a food issue.' So he goes, 'Okay, we are opening a food pantry and you are in-charge.' So I was like, 'Okay, no problem.'"

Mrs. Russell got right to work preparing the kitchen and calling in requests for donations. She explained that within a few hours they received food from the Jewish Community Council, and by the third or fourth day they were serving 300–400 people three hot meals a day as well as snacks. She received food from catering companies in Brooklyn and placed orders for fresh produce and other goods from a local grocery store. Mrs. Russell and three of her friends ran the kitchen from 7 AM to midnight every day for 2 weeks. They set up the food, cleared dishes, and talked with residents.

Young Israel became a needed social space, not just a place to receive food and supplies. As Mrs. Russell recalls, "Anybody who needed anything was welcome to come in, and we made people feel that way. And we were just – the word got out through lots of phone calls that we were the resource in the area." In between meals, Mrs. Russell and her friends would talk to the other residents, providing emotional support and sharing information, including how to apply for CAF assistance. When spirits were down, Mrs. Russell helped people cope by bringing up imagery of summer camp. She recalled that, "I told everybody, 'Okay guys, when the chips are down this is summer camp, sing, just stay happy.'"

Further, the Rockaway Citizens Safety Patrol (RCSP), a volunteer group in Bayswater and Far Rockaway, set up their headquarters at Young Israel to aid the recovery effort. While the RCSP is a primarily Jewish organization, they are concerned with the overall safety of the community and patrol the entire neighborhood and maintain a 24-h hotline. As Jason Shtundel, the founder of the RCSP explains, "One

of the benefits of having a citizen's patrol is that we know our neighbors and we know what is out of the ordinary. If I see a stranger in a car that I know belongs to my neighbor, I do not have to think twice about calling the police" (*The Wave* 2013).[14]

The RCSP expanded their role in the community in the days before and after Sandy. Volunteers helped to evacuate sick and elderly individuals in the community prior to the storm and helped to distribute hot food prepared in the kitchen by Mrs. Russell and coordinate debris, water, and mold removal in the weeks following the storm. They also extended patrol hours to cover the neighborhood 24/7. The Bayswater community did not suffer from looting after the storm.[15]

As the recovery effort went on, and more and more goods and services were funneled through Young Israel, the Rabbi asked a resident, Tom Schmitz†, to oversee and coordinate operations. Schmitz mediated between the Red Cross, National Guard, and other groups that came to Bayswater and wanted to donate or help with the recovery effort in some way.

Young Israel quickly became the hub for disaster relief and recovery in Bayswater. The preexisting organizational structure of the synagogue and its members enabled an easy transition to provide goods and services after the storm. Further, the neighborhood's leaders, including Mrs. Russell, Shtundel, Schmitz, and others, stepped up to fulfil the immediate and longer term recovery needs of the community. Their efforts exemplify the importance of bonding social capital to facilitate post-disaster recovery.

4.1.3 The Rockaway Youth Task Force distribution center

Across town, families and elderly residents were stuck without electricity and hot water in a neighborhood of densely populated apartment complexes and public housing units. Milan Taylor, the founder and president of the Rockaway Youth Task Force (RYTF), realized he could help his community in the days immediately following the storm. Taylor started RYTF in 2011 in order to encourage young residents of the Rockaways to engage in civic and community affairs in order to address social ills, such as gang violence, teen pregnancies, and unemployment. Taylor, a college student raised in the Rockaways, was able to use his interest in criminal justice and his passion for his community to inspire others to do the same. After Hurricane Sandy, Taylor utilized his connections and experiences from RYTF, including his prior community disaster response training, to provide resources to the community.

Taylor evacuated for the storm, but returned the next morning and immediately went to work. He arranged to set up a distribution center in the space of a local co-op and used social media to ask for volunteers and donations. Within 3 days, Taylor and over 100 volunteers were distributing bags with 2 days' worth of supplies to residents in three large apartment complexes (Miller 2012). As one RYTF member, Shalaka Cox told *CBS News*, "There's times when it might be overwhelming but then I think about what we're actually doing. I think in the last few days we've been able to reach over

[14] The RCSP works closely with the 101st Precinct, the nearby police station. The RCSP can follow-up on reported suspicions before calling the police, and the RCSP can also monitor a situation while waiting for police to arrive.

[15] Admittedly, the concern over looted following disaster is perhaps overstated. For example, see Barsky et al. (2006).

500 families, so knowing that keeps me going" (ibid.). The distribution center operated for about a week, until the electricity was restored to the neighborhood.

Because of the RYTF's familiarity with the community, they realized that many of the residents, particularly the elderly, would have a difficult time climbing the dark stairwells of their apartment complexes in order to go to the National Guard and FEMA distribution centers. Instead, they decided to bring supplies to the residents. Taylor recalled,

> [P]art of what I saw, when we were collecting the food from the National Guard…a lot of people were standing in lines for this food. And I just thought about, okay if you are an elderly or disabled person, how are you getting the food, so we actually weren't a traditional distribution site. What we did is we worked in two phases, the first phase, we did a canvas, where we knocked on door-to-door, and we saw who needed goods and services. And then on the second visit, which we did the same day, we kind of created a checklist for each household. And then we went back and created custom [bags] for them.

During that week, Taylor proved that he knew the needs of the community and could provide the local knowledge needed to obtain and distribute resources, highlighting the importance of bridging social capital in loosely-connected, heterogeneous groups. In an interview with *CBS News*, Taylor concluded that, "There is no community leadership guiding FEMA, guiding the Red Cross, because they're not from this community, so they don't know where the needs are" (ibid.). And in the months following the storm, Taylor worked a liaison for the Red Cross in an effort to share his experiences and lessons from the storm. The bridging social capital formed through participating in the RYTF proved useful when calling on volunteers to work the distribution center and check on elderly neighbors in the immediate days after Hurricane Sandy.

4.2 Innovation and imitation from within and outside of the community

4.2.1 Implementing the Community Assistance Fund

As mentioned previously, the Community Assistant Fund was organized by Achiezer and the Davis Memorial Fund. They enlisted the help of 48 rabbis to spread the word about the Fund and help residents with applications. Once applications were submitted, the board of trustees would review and approve requests for funding. While CAF was structured to ensure that the funds were handled appropriately and distributed to residents in need, they also relied on local rabbis to implement the Fund in their neighborhoods. The decentralized nature of using representatives allowed for innovation in how rabbis disseminated information about the Fund and collected applications.

The story of Rabbi Mordechai Kruger, a rabbi at the Agudas Yisroel of Bayswater and CAF representative for the Bayswater community, exemplifies the innovations that came out of implementing the Fund. Rabbi Kruger's prior experience and personal relationships with his community enabled him to not only get residents to sign up for CAF, but to also find new ways of collecting data on the interests and needs of the community.

Starting in 2002, Rabbi Kruger founded the Bayswater Neighbors Fund to provide short-term support for those in need. The small donations are intended to help families

purchase food for holidays, pay their monthly bills, or cover tuition for school. While Rabbi Kruger relies on other members of the community to observe when someone needs help and consults the other rabbis in the community for guidance, he aims to keep the donations and distributions anonymous. The residents of Bayswater trust him to distribute the funds to worthy families who are trying to be responsible and get back on their feet. Additionally, he has worked as a case worker for Met Council and now is a director of a non-profit that helps Jewish adults identify their career goals and gain the training and experience needed to fulfil their goals.

In the aftermath of Hurricane Sandy, Rabbi Kruger utilized his experience and skillset to help the Bayswater community recover. He recalls how he assumed the position of representing Bayswater for CAF, "after 36 hours [Achiezer] was asking these volunteers to coordinate distributions of funds, and I don't know if anybody told me to go, I just kind of showed up…[and said] okay, I will do it." The reputation he had built in the community helped him reach out to those who needed help. Rabbi Kruger noted that,

> Sandy was very equal opportunity and nobody did anything wrong, but people were very embarrassed [to ask for help]. So trust and comfort and being willing to talk about your loses, it's not easy, so we…mobilize[d] people who already had trust in the community, the rabbis, other community activists, whatever I had been doing, that definitely makes the whole thing easier.

By utilizing trusted members of the community, Rabbi Kruger was able to spread the word about CAF, encourage applications, and help the community receive the supplies and resources it needed to recover. He worked with a couple in the neighborhood to build a spreadsheet that would help assess the needs of the community. They developed a list of needed goods, surveyed the neighborhood, and documented stated needs in the spreadsheet, which was then used to match with incoming donations and coordinate purchases. For example, if someone wanted to donate mattresses, Rabbi Kruger could look at the spreadsheet to see how many mattresses were destroyed in the storm. Rabbi Kruger explained the benefits of the spreadsheet,

> What that ended up doing was that there were fund givers who would come forward with specific interests...[W]e were able to pull that information…we can tell you how many of those we need…[T]hat made it a lot easier to approach funders and it really sped up the relief effort.

Rabbi Kruger also relied on the volunteers at the relief center at Young Israel of Wavecrest and Bayswater, to talk to residents and encourage them to apply for CAF resources. They helped spread the word about CAF by sending emails, handing out fliers, and checking on the elderly by going door-to-door. In particular, Rabbi Kruger relied on Mrs. Russell, who ran the kitchen at Young Israel after the storm. He frequently relies on her connection to the community to determine which families need help and should receive funds from the Bayswater Neighborhood Fund, and did the same when spreading the word about CAF after Hurricane Sandy. As Mrs. Russell recalled, "[Rabbi Kruger] saw that I really had that in control so then he goes, 'Do me a favor, I have these applications. Can

you work the crowd and find out who needs money and whose houses were destroyed and we can get them the money.'" So after the food was served, and people were eating and socializing, Mrs. Russell would walk around and talk to residents about CAF. "I was able to work the crowd and make sure that people filled out applications, and I had to convince some people because they didn't want to take from anybody," she said.

Additionally, when other residents in the community came up with innovative ways to obtain resources, Rabbi Kruger made sure to encourage their efforts. One Bayswater resident, Tobias Cohen†, realized that since his house had flooded and would need repairs and new appliances, his neighbors on his street were most likely in the same situation. So he decided to try to purchase equipment and arrange for repairs in bulk. Cohen, an accountant with clients in property management, used his contacts and called wholesalers and contractors to arrange for bulk purchases and services. This enabled the neighborhood to get equipment at a discount and entice contractors by offering a week's worth of work instead of piecemeal jobs. Rabbi Kruger realized the benefit this had for the community, recalling that, "you had ten people who would hire a guy who would do all of our boilers so they would bring a crew and would work house, house, house, house and it lowered the cost and that worked really well."

The innovations in Bayswater—including documenting needs on a spreadsheet, purchasing equipment and repair services in bulk, and utilizing Mrs. Russell and other trusted community members to spread the word about CAF—were communicated to the broader Orthodox Jewish community in CAF meetings at Achiezer. Rabbi Kruger explained that initially, no one really knew what to do,

> [T]here was a huge amount of learning because nobody knew how to do this stuff. It wasn't like we had practiced drills, and we originally sat in a room and just kind of looked at each other, we didn't really know what to do…and so Achiezer and the Community Assistance Fund said, "okay, we are going to start raising money… we don't really know how much we are going to get, but try to get a sense of what you'll need, and we'll see what happens."

And as people came across problems or discovered useful resources and procedures, they discussed them with one another. As Rabbi Kruger recollected,

> Well, Achiezer was the nexus of everything and there were regular meetings there to get together and talk about what has happened, what can we do next, what are going to be the guidelines for the funds that are available, so I remember being there in the dark sitting there by candlelight, and there was an enormous amount of respect and willingness to listen and that was extremely important because none of us knew what we were doing…Everybody was given a chance to ask whatever was on your mind, talk to anybody, nobody was rushing out…That was extremely important.

Rabbi Kruger and his team of trusted neighbors were able to tap into the bonding social capital in Bayswater in order to develop new procedures for assessing damages, disseminating information about CAF, and coordinating repairs.

4.2.2 The White Shul relief center

As mentioned previously, three synagogues became resource centers that provided warm meals, clothing, generators, and other needed goods and services. These resource centers served as focal points, where residents could talk to neighbors, get supplies, and coordinate repairs. While the center at Young Israel was up and running within a day of the storm, the White Shul in Far Rockaway was not utilized as a relief center right away, but rather became one as the week went on and residents realized they needed to address the pressing issues of a prolonged lack of electricity, supplies, and schooling. Like Young Israel, the White Shul was the logical location to gather since it was in many ways the spiritual and cultural center of the Orthodox Jewish community.

While Chaim Leibtag, the president at the White Shul, had lived and worked in the Far Rockaway Orthodox Jewish community for decades, he was new to his position at the synagogue. However, this did not stop him from jumping right in and working with others in the community to turn the synagogue into a relief center. His first call was to a rabbi at Young Israel, who could help him find contacts for generators, food, clothing, and other donations. By utilizing his network in the community, Leibtag was able to imitate the successful efforts of the Young Israel, and in short order the White Shul was up and running as a relief center.

They were able to borrow a spare generator from Young Israel, and quickly set up outdoor lighting typically used for holidays, a charging station, and even hooked up a wireless internet connection so members of the congregation could use the internet to check on family and request supplies and services. Then food and clothing started coming in, including fresh groceries donated by a local grocer. Volunteers and residents began cooking hot meals, serving roughly 300 meals three times a day, and setting up space to distribute supplies.

Once the relief center was established, Leibtag and other volunteers found new ways to handle donations and provide services to the community. For instance, a truck of gasoline was arranged to stop at the synagogue. When someone from Maryland offered to pay for a bus to take people who wanted to get away down south, Leibtag asked them to return the empty bus with full containers of gasoline. He then emailed out instructions to the congregation, setting up times to pick up filled containers of gas, giving first priority to emergency personnel and then fulfilling the needs of residents. The distribution went smoothly and provided needed fuel to run generators and equipment for repairs.

As the adults dealt with relief and rebuilding efforts, the children of the congregation were getting restless. Leibtag worked with some parents and teenage volunteers to set up activities, lessons, and entertainment. These activities went well into the evening each night and was a welcome break for the adults who were dealing with clearing debris, draining floodwater, and rebuilding their homes.

Leibtag then worked with a local pediatrician to set up a clinic in the White Shul. Dr. Hylton Lightman's office suffered over five feet of flood water and sewage. Fortunately, he and his wife had prepared by storing their vaccine inventory and computer with electronic records during the storm and could easily set up shop in a temporary location. As Dr. Lightman (2013) recalled, "Within 72 h of Mr. Leibtag's

offer, we were fully operational." Dr. Lightman ended up staying at the White Shul for 6 months while his office was gutted and rebuilt.

And, when FEMA arrived two weeks after the storm, they set up an information center in the White Shul since it was the place where residents came for food, resources, and information.[16] According to Leibtag, the National Guard also came by around 2 weeks into recovery and offered a truck load of food. Since they already had food services up and running, Leibtag offered the additional supplies to a local church.

By being flexible and utilizing his connections in the community, Leibtag ensured that the congregation had the support they needed to recover. He relied on his social network to learn from the Young Israel relief center and was innovative when new opportunities and issues arose. Further, he shared these lessons and resources with organizations outside of the Orthodox Jewish community. Leibtag's access to both bonding and bridging social capital was essential in learning how to establish a relief center after the storm.

4.2.3 Improving the Rockaway Youth Task Force distribution center

As highlighted in the previous section, Milan Taylor and the Rockaway Youth Task Force utilized their existing social networks to mobilize a distribution center and supply delivery service after Hurricane Sandy. Taylor recognized the challenges that traditional distributions centers faced and altered his operation to better serve the needs of the community. Further, he surveyed other relief and recovery efforts and imitated useful aspects of their operations.

For instance, Taylor decided to drive through other neighborhoods and survey the damage of the Peninsula. When he drove through Bayswater, he realized that many homes had generators within days of the storm. Since he knew some of the Orthodox Jewish community leaders from civic organizations and meetings, he stopped by Young Israel and was impressed by their operations. When he got back to the distribution center, he imitated their organizational system and started using walkie-talkies like he saw being used at the synagogue.

Taylor was able to alter the typical organization of distributional center in order to fulfil the needs of residents stranded in large apartment complexes after the storm and to imitate useful practices from the efforts of the Orthodox Jewish community. While they provided support for different communities in the Rockaways, Taylor was able to observe and imitate the close-knit group of the Orthodox Jewish community in order to provide better services to his own loosely-connected neighborhood. Taylor's efforts exemplify how linking social capital can be accessed to enhance recovery after a disaster.

5 Implications and conclusion

After a disaster, communities are faced with limited resources and uncertainty. Whether residents evacuate and have to determine when to return or if they stay and have to find

[16] See notice from *The Jewish Star*, available online at http://thejewishstar.com/stories/Hurricane-aftermath-updates,3670

ways to obtain resources while they wait for services to be restored, communities rely on one another to signal and coordinate return and recovery efforts. After Hurricane Sandy, the Rockaways suffered from flooding, wind damage, and prolonged power outages. Despite this, community leaders in neighborhoods throughout the Peninsula were able to coordinate relief and recovery efforts by utilizing their preexisting social networks and engaging in entrepreneurial acts that allowed for social learning to take place. In the post-disaster context, social learning—which takes place across bonding, bridging, and linking forms of social capital—occurs when communities are able to (a) adapt existing organization structures and (b) create new procedures and imitate the successful actions of others in order to spur recovery.

There are several important implications to the study. First, our research illustrates that even individuals who are outside of close-knit, homogeneous, and highly effective groups, such as the Orthodox Jewish community (or the Mary Queen of Vietnam community), stand to benefit from the innovations of those groups. Social learning can take place through bonding social capital, but it can also take place through bridging and linking social capital and can accrue benefits to other groups. Taylor, of the RYTF, had a weak tie with the Orthodox Jewish community, and was able to use this connection to see their recovery efforts and then imitate a few of their best practices in his own group. This finding lessens some of the concerns around "the dark side of social capital," or, specifically, worries that the benefits of social capital only accrue to some, at the exclusion of others (for example, see Aldrich 2012 chapter 5).

Second, the argument presented and empirical evidence serve as a counter to literature that suggests formal assistance, or government-led aid, is required to ensure effective response and rebuilding (see, for instance, Birch and Wachter 2006; Schneider 2008; Cigler 2009; Springer 2011). Further, the study identifies a potential advantage for civil society organizations over government assistance programs. Social learning, and the ability to alter existing organizational structures and adopt best practices from successful groups, is especially important in the post-disaster context because circumstances are widely uncertain and apt to change. Not only are no two disasters identical, but the problems that residents confront 1 day after the storm are not necessarily the same problems they must take on 2 weeks later. This implication is closely related, and further corroborates the arguments made by Coyne and Lemke (2012) and Storr et al. (2015) regarding the flexibility and adaptability of polycentric systems (which make room for civil society organizations) over monocentric systems (which privilege government led action), that tend to be rigid and inflexible.

Third, although social learning can help to increase coordination in the post-disaster scenario, there are also actions and policies that can frustrate social learning and prevent recovery. Policymakers should avoid such policies. Chamlee-Wright (2007) has described various sources of signal noise, such as (1) regulatory rigidity, (2) complications around flood maps and flood insurance, and (3) redevelop planning (in particular, attempts to engage in comprehensive planning that requires too much time to develop and carry out and planning that ignores established property rights). All three of these items increase the costs or prevent individuals from beginning the recovery process. When individuals cannot act, then the opportunity for improvement in judgment as a result of learning from others does not take place and individuals cannot

imitate successful others. In other words, when post-disaster environments are riddled with signal noise and other burdensome policies, the possibility for social learning is eliminated. Instead, Chamlee-Wright (ibid.) and Smith and Sutter (2013) have recommended suspending certain regulations (e.g. occupational licensing) and allowing for decentralized recovery efforts (as opposed to comprehensive plans). Our study highlights the importance of social learning in post-disaster recovery and, therefore, argues that a stable and encouraging policy environment will facilitate recovery.

References

Aldrich, D. (2011). The power of people: social Capital's role in recovery from the 1995 Kobe earthquake. *Natural Hazards, 56*(3), 595–611.

Aldrich, D. (2012). *Building resilience: Social Capital in Post-Disaster Recovery*. Chicago: University of Chicago Press.

Aldrich, D. P., & Meyer, M. A. (2015). Social capital and community resilience. *American Behavioral Scientist, 59*(2), 254–269.

Barsky, L., J. Trainor, and M. Torres. (2006). Disaster Realities in the Aftermath of Hurricane Katrina: Revisiting the Looting Myth. *Disaster Research Center*. Available online at: http://udspace.udel.edu/handle/19716/2367#files-area

Beggs, J., Haines, V., & Hurlbert, J. (1996). Situational contingencies surrounding the receipt of informal support. *Social Forces, 75*(1), 201–222.

Bensoussan, B. (2012). Mold, rot & truckloads of goodwill. *Mishpacha Jewish Family Weekly, 437*, 54–62.

BIA (2006). *Meeting Minutes: January 18, 2006*. New Orleans, LA: Broadmoor Improvement Association, Inc.

Birch, E., & Wachter, S. (Eds.) (2006). *Rebuilding urban places after disaster: lessons from Hurricane Katrina*. Philadelphia: University of Pennsylvania Press.

Blake, E. S., T. B. Kimberlain, R. J. Berg, J. P. Cangialosi, and J. L. Beven II. (2013). Tropical Cyclone Report: Hurricane Sandy. *National Hurricane Center.* Available online: http://www.nhc.noaa.gov/data/tcr/AL182012_Sandy.pdf.

Boettke, P., Chamlee-Wright, E., Gordon, P., Ikeda, S., Leeson, P. T., & Sobel., R. (2007). The political, economic, and social aspects of Katrina. *Southern Economic Journal, 74*(2), 363–376.

Bolin, R., & Stanford, L. (1998). The Northridge earthquake: community-based approaches to unmet recovery needs. *Disasters, 22*(1), 21–38.

Bourdieu, P. (1985). The forms of capital. In J. G. Richardson (Ed.), *Handbook of Theory and Research for the Sociology of Education*. New York: Greenwood.

Burt, R. (2001). Structural Holes versus Network Closure as Social Capital. In N. Lin, K. Cook, & R. Burt (Eds.), *Social Capital: Theory and Research*. New York: Aldine De Grutyer..

Chamlee-Wright, E. (2007). The Long Road Back: Signal Noise in the Post-Katrina Context. *The Independent Review, 12*(2), 235–259.

Chamlee-Wright, E. (2010). *The cultural and political economy of recovery: social learning in a post-disaster environment*. London: Routledge.

Chamlee-Wright, E. (2011). Operationalizing the Interpretive Turn: deploying qualitative methods toward an economics of meaning. *Review of Austrian Economics, 24*(2), 157–170.

Chamlee-Wright, E. (2015). Pastor's Response in Post-Katrina New Orleans: Navigating the cultural economic landscape. In L. Grube & V. H. Storr (Eds.), *Culture and Economic Action*. London: Edward Elgar.

Chamlee-Wright, E., & Myers, J. (2008). Discovery and social learning in non-priced environments: An Austrian view of social network theory. *The Review of Austrian Economics, 21*, 151–166.

Chamlee-Wright, E. and V. H. Storr. (2009a). "Filling the Civil Society Vacuum: Post-Disaster Policy and Community Response." *Mercatus Center Policy Series*, Policy Comment No. 2. Arlington, VA: Mercatus Center at George Mason University.

Chamlee-Wright, E., & Storr, V. H. (2009b). Club Goods and Post-Disaster Community Return. *Rationality and Society, 21*(4), 429–458.

Chamlee-Wright, E., & Storr, V. H. (2010). The Role of Social Entrepreneurship in Post-Katrina Community Recovery. *International Journal of Innovation and Regional Development, 2*(1/2), 149–164.

Chamlee-Wright, E., & Storr, V. H. (2011). Social capital, lobbying, and Community-Based Interest Groups. *Public Choice, 149*(1–2), 167–185.
Cigler, B. (2009). Post-Katrina hazard mitigation on the Gulf coast. *Public Organization Review, 9*(4), 325–341.
Coleman, J. S. (1988). Social Capital in the Creation of human capital. *American Journal of Sociology, 94*(supplement), S95–S120.
Coyne, C., & Lemke, J. (2012). Lessons from the Cultural and Political Economy of Recovery. *American Journal of Economics and Sociology, 71*(1), 215–228.
Elliott, J., & Pais, J. (2006). Race, class, and Hurricane Katrina: social differences in human responses to disaster. *Social Science Research 35,* 295–321.
Grube, L., & Storr, V. H. (2014). The capacity for self-governance and post-disaster resiliency. *The Review of Austrian Economics, 27*(3), 301–324.
Hawkins, R. L., & Maurer, K. (2010). Bonding, bridging and linking: how social capital operated in New Orleans following hurricane Katrina. *British Journal of Social Work, 40*, 1777–1793.
Helliwell, J., & Putnam., R. (1995). Economic growth and Social Capital in Italy. *Eastern Economic Journal, 21*(3), 295–307.
Hurlbert, J., Haines, V., & Beggs, J. (2000). Core networks and tie activation: what kinds of routine networks allocate resources in Nonroutine situations? *American Sociological Review, 65*(4), 598–618.
Hurlbert, J., Beggs, J., & Haines, V. (2001). Social Capital in Extreme Environments. In N. Lin, K. Cook, & R. Burt (Eds.), *Social Capital: Theory and Research.* New York: Aldine De Gruyter..
Johannisson, B., & Olaison, L. (2007). The moment of truth—reconstructing entrepreneurship and social capital in the eye of the storm. *Review of Social Economy, 65*(1), 55–78.
Lightman, H. (2013). Hurricane Sandy a spiritual response: voices from the storm. *Jewish Action, 73*(3), 28–30.
Miller, M. 2012. "Youth help guide Sandy relief effort in Queens." *CBS News*. Available online: http://www.cbsnews.com/news/youth-help-guide-sandy-relief-effort-in-queens/.
Nakagawa, Y., & Shaw, R. (2004). Social capital: a missing link to disaster recovery. *International Journal of Mass Emergencies and Disasters, 22*(1), 5–34.
Patterson, O., Weil, F., & Patel, K. (2010). The role of community in disaster response: conceptual models. *Population Research and Policy Review, 29*(2), 127–141.
Portes, A. (2000). The two meanings of social capital. *Sociological Forum, 15*(1), 1–12.
Putnam, R. (2000). *Bowling Alone: The Collapse and Revival of American Community.* New York: Simon & Schuster.
Russell, S. (2013). Hurricane Sandy a spiritual response: voices from the storm. *Jewish Action, 73*(3), 35–36.
Schneider, S. (2008). Who's to blame? (Mis)perceptions of the intergovernmental response to disasters. *Plubius*. *The Journal of Federalism, 38*(4), 715–738.
Smith, D., & Sutter, D. (2013). Response and recovery after the Joplin tornado: lessons applied and lessons learned." *The. Independent Review, 18*(2), 165–188.
Springer, C. G. (2011). Achieving community preparedness post-Katrina. Available at: http://digitalscholarship.unlv.edu/sea_fac_articles/318.
Storr, V. H., & Haeffele-Balch, S. (2012). Post-disaster community recovery in heterogeneous, loosely connected communities. *Review of Social Economy, 70*(3), 295–314.
Storr, V. H., Haeffele-Balch, S., & Grube, L. (2015). *Community revival in the wake of disaster lessons in local entrepreneurship*. New York: Palgrave Macmillan.
The Wave. 2013. "Rockaway Citizens Safety Patrol Report." *The Wave*, November 29, 2013. Available online: http://www.rockawave.com/news/2013-11-29/Community/Rockaway_Citizens_Safety_Patrol_Reports.html.
Webler, T., Kastenholz, H., & Renn, O. (1995). Public Participation in Impact Assessment: A Social Learning Perspective. *Environmental Impact Assessment Review, 15*, 443–463.
Woolcock, M. (2001). The place of Social Capital in Understanding Social and Economic Outcomes. *Canadian Journal of Policy Research, 2*(1), 11–17.