Community Resilience and Public Libraries: Post Crisis Information and Connectivity

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On April 27, 2011, a series of tornados tore through Alabama killing 131 people across the state. Tuscaloosa was hit the hardest by an EF-4 tornado that destroyed more than 5,000 homes.[i] Less than one month later, on May 22, 2011, an EF-5 tornado swept across Joplin, MO, damaging or destroying 7,500 homes and 500 businesses and city structures.[ii] The Joplin tornado was the deadliest single tornado in recent history, killing 161 people and injuring thousands more.[iii] The following spring more than 45 tornados sprung up across rural southern Indiana and northern Kentucky, killing 13 in Indiana and another 23 in Kentucky.[iv] An EF-4 twister stayed on the ground for more than 49 miles cutting through Henryville, IN, while an EF-3 stayed on the ground for 95 miles leveling the small town of West Liberty, KY. All of these tornados left in their wake shock, confusion, and mass wreckage littered across the countryside.

The Joplin tornado, specifically, spurred significant research on how to improve the communication of weather information and warnings.[v] New warnings have been designed and tested to encourage appropriate action for self-protection in a severe storm. However, little research has examined the intense and immediate need for information after the storms as the public struggles to make decisions on limited information.[vi-vii] The communities impacted by tornados listed here all had differing city structures, populations, numbers of lives lost, and levels of destruction caused. But in the aftermath of the storms, across the communities, individuals were faced with similar questions. Decisions had to made regarding where to go, what to do, and how to locate supplies, help clean up, contact and locate family, file insurance claims, and apply for federal aid. Areas were often without power, some for more than a week. Phone and cable service was out for more than a month in some of the more rural areas. With limited access to traditional communication channels, disaster victims needed a trusted and reliable source for community information.

Public libraries are uniquely primed to provide important community information and referral services. While often regarded as formal sources of information, in that libraries are "charged with the responsibility to provide answers to questions or problems (information) or offer alternative sources that may be able to help (referral),"[viii] libraries are also the primary provider of free computer and Internet access and serve as community anchor institutions, where people can gather informally for information exchange.[ix] Results from the 2010–2011 Public Library Funding and Technology Access Survey, showed that 64.5 percent of public libraries reported being the only provider of free public access to computers and the Internet in their communities and 91.8 percent of libraries reported helping people understand and use e-government websites.[x] Forms and documents needed to apply for federal aid are almost exclusively online and many users lack the computer literacy needed to download and complete the forms and must seek assistance from public librarians.[xi] Thus, libraries can play a unique role in disaster recovery as a centralized hub for community information and connectivity.

A plethora of disaster recovery services were identified in libraries along the Gulf Coast in 2004-2005.[xii] Library services included responding to information inquiries; creating community contact centers; staffing shelters in library buildings; housing city command centers (i.e., police, fire, public works); distributing food and supplies; providing hook-ups to recharge electronics and communication devices; assisting with the completion of FEMA, insurance, and other paperwork; providing library materials to evacuees in shelters; providing FEMA, Red Cross, National Guard, and Army Corps of Engineers personnel with a place to meet with residents; and giving temporary library cards to relief workers among other services.[xiii] The use of the Internet

to contact FEMA was the most frequently cited service that libraries provided to their communities. One librarian in the Gulf study noted, "our staff helped customers file over 45,000 FEMA applications [and] insurance claims." Another study showed that even though 35 percent of the Louisiana public libraries were closed, their overall number of visitors only went down by 1 percent, indicating that individuals sought library services elsewhere if their library was closed. To further examine this role, our study sought to identify and describe the services and activities of public libraries related to disaster preparedness, response, and recovery in recent tornadic events.

Methods
We conducted face-to-face and telephone interviews with 22 librarians from 12 different community libraries across northern Alabama (n=3); southwest Missouri (n=3); southern Indiana (n=2), and Kentucky (n=14). We also interviewed five library users in two communities, as well as a local emergency responder from one community and a state library consultant. All participants (n=29) were systematically identified based on whether their community suffered structural damage from a tornado. "Qualitative sampling is purposeful because its practitioners strive to locate themselves at the sites of specific communicative performances and practices".[xiv] Telephone interviews (n=7) were first conducted with participants in communities where a tornado had occurred at least one year prior to pilot questions and gain hindsight perspectives. Face-to-face interviews (n=22) were then conducted with participants who had experienced a tornado in the last three months to allow for interview adjustment based on facial cues of distress. Ten of the libraries survived the storms unscathed, one library lost its roof, and another was later condemned because the tornado moved the building off of its foundation. In one community, eight of the 40 librarians on staff lost their homes. In another, three months after the storm, when we conducted interviews, church groups were still providing daily meals for the affected families.

Data was collected until no new significant themes emerged in later interviews. Interviews began with broad, grand tour questions about the event followed by more specific questions related to the role of the library in the disaster recovery, inviting the participants to describe their perceptions in their own words. As the number of interviews conducted increased, there was an increase in the use of more specific questions to test previous findings and expand on theoretical and practical issues. Participants signed a consent form allowing the recording and analysis of their comments. Researchers received approval from their university Internal Review Board (IRB) to conduct the study.

Notes were taken throughout the interviews to create a schema, and recordings were replayed to assure accuracy of the notes and direct quotations from participants.[xv] Analyzing data is a continuous process that occurs throughout the course of qualitative study. The use of an open-ended approach to data analysis lends itself to a more thorough and rich understanding of the phenomena being studied. Reduction, explanation and theory considerations were addressed prior to conducting the study. Reduction – sort, categorize, prioritize and interrelate data – followed emerging schemes of interpretations utilizing the constant comparative coding method.[xiv, xvi]

Findings
Across the communities, the library directors reported they had an increase in the number of patrons using computers to look up information and use e-government websites, including

downloading and completing FEMA and insurance forms, tracking down lost tax information, and filing for unemployment if their employer's business was destroyed. In some cases, patrons were new to technology and had to first be taught how to use the computer, set up an email account, and navigate the Internet to find the FEMA forms. Patrons also used computer and Internet services to contact friends and family through email and social media, and to look up information. Since many community members were without power for several days or even weeks after the storm, the libraries set up power strips for people to charge cell phones and laptops. All of the libraries saw a significant increase in copies and faxes, and in each case the libraries waved the fees for the copying and faxing of FEMA and insurance documents. FEMA workers also visited the libraries until the regional offices could clear space, and in one location, a FEMA worker met one-on-one with individuals in the library conference room. One library served as a drop-off and pick-up site for donated food, water, tarps and supplies, while another housed both a bank and the unemployment office in their conference rooms for months after the storms. All of the libraries provided FEMA information and deadlines and sought to be a central source for information and referral by locating what services were being offered by aid organizations and relief centers and maintaining a list for individuals who called or stopped in for information.

The libraries also provided traditional services in circulation. None of the libraries issued fines for books lost in the storms and several libraries increased collections of materials on home building, house plans, building storm shelters, landscaping, and coping with disaster. Patrons were welcomed to tell their stories of the disaster; the librarians said their job was to listen. Most poignant in the interviews with patrons was that the libraries provided a place that felt "normal," like a living room in the midst of the chaos and clean up outside. One patron whose library didn't have a back-up generator to remain open the first week after the storm said, "the library was like our normal, and when it wasn't open we couldn't be normal. It sounds silly, it's just some books and some people, but it seemed like it was everything." Another patron whose home was destroyed with her and her children still in it brought her sons in several times a week following the storm. She commented, "Maybe the library was not critical for us – providing food, clothing, shelter. But it was comfort – familiarity, a luxury. My one son is still in therapy. Comfort can be critical. […] Our house was gone and it's the only place that felt like home."

The purpose of our study was to identify and describe the services and activities of public libraries related to disaster preparedness, response, and recovery in tornadic events. The following discussion further examines the findings through the conceptual lens of community resilience.

Discussion
The term resilience is defined as "the capacity of a material or system to return to equilibrium after a displacement."[xxii] In disaster literature, community resilience has been described as both a process and an outcome. There are four key elements in the process approach to community resilience including anticipating threats, reducing vulnerability to hazard events, and responding to and recovering from hazard events when they occur.[xxiii] As an outcome, resilience is defined as a loose antonym for vulnerability because a resilient community is able to withstand external shocks, stresses, changes, or disturbances in the social, political, or physical environment.[xxiv] When considered an outcome, resilience can be tested to determine what resources enable the community to be resilient. Four primary networked resources of community resilience have been

identified: Economic Development, Social Capital, Information and Communication, and Community Competence.[xxii]

Economic Development includes fairness of risk and vulnerability to hazards, level and diversity of economic resources, and equity of resource distribution.[xxii] Hazard risk is neither randomly nor evenly distributed, and poor communities are not only at greater risk for death and severe damage in a disaster, but they are also less successful in mobilizing support after disasters.[xxv] In our interviews we found that two communities, similar in size and hit by the same series of storms on the same night, received differing levels of attention seemingly based on location. In one community, located just off the interstate and 20 miles from a major metropolitan area, insurance agents arrived before affected community members could even call. Trucks from Papa Johns, Taco Bell, and Little Caesars lined the street handing out food while the Red Cross delivered hot meals from Logan's, Captain D's, Texas Roadhouse, and Red Lobster. Some library patrons in a similar sized community located in rural, eastern Kentucky had yet to see their insurance agents face-to-face three months after the storm and casseroles served by church groups were the primary source of food at the tents outside town.

Social Capital includes received and perceived social support, formal and informal ties to the community, organizational linkages and cooperation, sense of community and attachment to place.[xxii] Social support includes having family and friends nearby and/or willing to help as well as relationships between individuals and their neighbors and the larger community network. Throughout the interviews, individuals commented on how much the local community came together. One librarian said that they didn't need to plan and train for how to respond in a disaster, "We're in the Ozarks where it's neighbor helping neighbor. You don't need to train for that. You just help where you can." Another commented, "In a community your worst neighbor becomes your best friend before FEMA can respond." An interesting finding in our study was that individuals impacted by previous storms felt a need to assist others. Specifically, teams of volunteers from Joplin, MO, traveled to Indiana and Kentucky to help with clean up and rebuilding efforts. While a community is defined as "an entity that has geographic boundaries and shared fate,"[xxii] when considering social capital, sometimes shared fate is more important than geographic boundaries, leading scholars to argue "for a more nuanced approach to disaster recovery that integrates a consideration of the complexity of the psychology of place and its critical role in the development and maintenance of social capital and, hence, community resilience."[xxvi] As a community funded infrastructure, libraries serve as an obvious social capital resource; however, we found some of the libraries in our study also relied on resources and staff assistance from their extended library community including the state library and neighboring "sister" libraries. Also, an individual's "home" library may not be the one closest to where they live, but convenient to where they work or where their children attend school.

Information and Communication includes narratives, responsible media, skills and infrastructure, and trusted sources of information.[xxii] Libraries serve as both a formal and informal information source, regardless of the situation. As one librarian said, "The strongest trait here is that regardless of the question – it deserves an answer and if we don't know we'll find out. It's our mantra…that we don't let any question go unanswered." Another library in our study also provided patrons with a space to share communal narratives of the disaster. One librarian said, "Everybody has a story, and people needed to be able to tell their stories. It might just be to the circulation clerk but they need to be able to express what went on." Libraries clearly provide communication and information resources for community resilience.

Community Competence includes community action, critical problem solving skills, flexibility and creativity, collective efficacy and empowerment, and political partnerships. Communities must be able to adapt to changing environmental conditions following a disaster.[xxii] Scholars suggest that resilience has two qualities: "inherent (functions well during non-crisis periods); and adaptive (flexibility in response during disasters)."[xxv] In our study one librarian stated, "We just did the same things we always do, but we did more and were more accommodating to the circumstances." Helping patrons access e-government resources is not new, particularly during an economic recession. What was missing for the libraries we studied was an actual plan. Not a single library had a plan in place for how to assist the community, and only one library coordinated with emergency management officials. One library borrowed several laptops from the state library system, assuming there would be a rush of patrons coming into the library, but the city's public information officer did not receive the email notifying her of the services the library was willing to provide. While the libraries did see a small increase in patrons, the laptops were returned a week later and the library director stated, "We were ready for them, but they just didn't know to come to the library." Nationally, about 31% of public libraries report partnering with government agencies and several examples of successful collaborations do exist.[x,xix] Researchers have urged libraries to reach out to other community services organizations to form partnerships with them for the benefit of the community.[xxvi] After all, ''people in communities are resilient together, not merely in similar ways."[xxvii]

Conclusions and Future Research
Commenting in 2006 on why FEMA gave so little help to libraries during the hurricane disasters in Louisiana, FEMA declared simply: Libraries are not essential services.[xiii] A former FEMA director agreed that FEMA didn't have libraries on the radar as a potential resource in disaster recovery, "I think you're really on to something there, I mean, where else are they going to go? Libraries have back up generators for power, they have Internet, they have people who will help you. I guess we never really thought of the role libraries could play."[xx] Research has shown that even library staff underestimate the importance of libraries as a source of community information.[xxi] However, our study demonstrates the incredible resource for social capital and communication and information libraries have become. Libraries also provide communication and information resource availability that some may not otherwise be able to afford or access. But without specific plans to coordinate response with other entities that assist with community recovery, public libraries have a limited capacity for contributing to community competence. The research we conducted under the Quick Response Program Grant from the University of Colorado Natural Hazards Center provided detailed accounts of the services provided to assist affected communities in disaster recovery. However, more research is needed to determine how widespread these specific library efforts are across communities and in different types of disasters.

We are currently preparing a grant proposal for submission to the National Science Foundation's Decision, Risk and Management Sciences program to examine the role of public libraries in community resilience by determining the extent to which libraries are engaging in community information and support services for disaster planning, response, and recovery. Using geospatial data of FEMA Declared Disasters, counties impacted by federally declared disasters can be identified and the U.S. Library directors from a stratified sample of the impacted communities by incident type and metropolitan status areas (MSA) could then be surveyed to provide a representative sample for generalizability of library services. Objectives of the study

would be to: (1) Determine the extent to which libraries provide community information and support services for disaster planning, response, and recovery; (2) Examine the effects of disaster type, metropolitan status area, demography, and engagement with community organizations and offices on the number and level of services provided; (3) Identify strategies used by libraries to interact with emergency management officials and promote the services offered to the community; (4) Assess whether libraries had or now have a disaster plan and if that plan includes how the library can assist the community in recovering from a disaster; and (5) Outline recommendations for both library directors and emergency managers on how to integrate libraries in community disaster planning, response, and recovery.

The current study provided evidence of the potential role of libraries in community resilience. The proposed extension of this study would seek to understand the extent to which resources that support community resilience are delivered by public libraries across the country to provide a baseline for strategic plan development and funding requests to support advances in this area. We suggest that if libraries embraced their role in community resilience, plans for assisting community members could be developed before disaster strikes allowing for a less haphazard response and a smoother delivery of needed services.

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