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# 'Come Back at Us': Reflections on Researcher-Community Partnerships during a Post-Oil Spill Gulf Coast Resilience Study

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**Abstract:** This paper presents findings from eight post-hoc interviews with individuals representing the key community partner organizations that facilitated and hosted data collection for an in-person mixed-methods survey about disaster resilience and preparedness in three communities on the Gulf Coast (U.S.) impacted by the Deepwater Horizon oil spill and numerous disasters from natural hazards. We submit our analysis of these follow-up interviews with community partners as a case study to provide a set of recommendations for future community-engaged research practices, particularly in the field of environmental and disaster resilience. Input from community partners stressed the importance of engaging with local community brokers to enhance trust in research; researcher-partner communication; and researcher interaction with community residents that respects local knowledge and culture. The partners indicated that even communities that have often been the subjects of post-disaster studies are receptive to research participation, especially when the effects of disasters are long-term and ongoing. Recommendations include using research methodologies that are congruent with post-disaster community characteristics such as educational attainment; collaborating with community partners to disseminate research findings; and incorporating theories and practices that center critical reflection and consider power dynamics when working with communities that have experienced disaster and trauma.

**Keywords:** community engagement; disaster; oil spill; resilience; research methods; Gulf Coast; research ethics; community-engaged research

## 1. Introduction

The intertwined social and environmental challenges facing communities across the globe create a pressing need for place-based, use-inspired, policy-relevant research about disasters and environmental change (Wall et al. 2017). In striving to meet this need, scholars must critically scrutinize their research practices to incorporate collaborative problem-solving, co-production of knowledge, democratic public participation, and ethical, equitable researcher-community partnerships into their methodologies (Chilvers and Kearnes 2015; Yuan et al. 2016).

Such scrutiny is particularly relevant on the Gulf Coast of the United States, where both rapid- and slow-onset disasters—from both natural and technological hazards—compound the effects of environmental change on residents' patterns of life. Between the years 2000 and 2017, eighteen named hurricanes struck the region (NOAA National Centers for Environmental Information 2018), and the Gulf's complex human and ecological systems continue to grapple with

effects of the largest petrochemical disaster in U.S. history, the 2010 Deepwater Horizon oil spill ([National Commission 2011](#)). Louisiana alone has lost over 1800 miles of coastal land since 1932, a phenomenon caused by factors including oil and gas exploration, sea level rise, natural sediment dynamics, and flood-control infrastructure, a combination that exposes people and environments on the coast to saltwater intrusion, more severe and frequent flooding, and increased storm damage ([Coastal Protection and Restoration Authority of Louisiana 2017](#)). Given their proximity to a wide range of rapid- and slow-onset disasters, we posit that residents of the Gulf Coast are among the most environmentally vulnerable communities in the U.S. ([Carpenter 2015](#)). These realities—and international attention to the Deepwater Horizon oil spill and Hurricane Katrina—have made the region an instructive and popular site for socio-environmental research about disasters, environmental change, resilience, and adaptation. In any area, such as the Gulf South, where minority populations grapple with persistent socioeconomic disadvantage amidst current realities and past legacies of both institutionalized racism and environmental justice, concerns about researcher-community relationships are extremely pressing ([Kerstetter 2012](#); [Minkler 2005](#); [Yuan et al. 2016](#)). The high volume of social science and public health research performed in and about Gulf Coast communities over the past two decades raises ethical questions about how researchers work with people who have undergone traumatic experiences and remain vulnerable to future disasters and displacement ([Bacon 2002](#); [Ferreira et al. 2015](#); [Israel et al. 1998](#); [Picou 2011](#)).

### *1.1. Purpose of the Manuscript*

To ground researchers interested in conducting future community-centered projects in vulnerable, disaster-prone areas, we present a case study that features self-evaluation and reflective critique of our 2017 data collection efforts. This reflection scrutinizes our methodologies and practices partnering with three community-based organizations on the Gulf Coast during an in-person survey of 326 residents of three coastal communities in Louisiana and Alabama that were affected by the Deepwater Horizon oil spill. Because the survey project was developed by researchers with input and advice from community partners and stakeholders, but not with full community collaboration across every aspect of the study, we conducted semi-structured post-hoc interviews to identify lessons learned and best practices for future research in communities impacted by multiple disasters. These interviews with eight local collaborators were informed by Community Based Participatory Research methodologies and serve as the primary tool for evaluating the ways this research project operationalized the term “community engagement in research” ([Wengraf 2001](#); [Minkler 2005](#)). In this paper, we aim to present a critically-reflective case study to inform future community-engaged research practices, particularly in the field of environmental and disaster resilience ([Laska and Peterson 2011](#); [Lesen 2015](#)).

### *1.2. Overview of Our Project*

Our in-person survey was part of a larger project, the Consortium for Resilient Gulf Communities (CRGC), launched in 2015 with a multi-year grant from the Gulf of Mexico Research Initiative to assess and address the public health, social, and economic impacts of the Deepwater Horizon oil spill in the Gulf region. Led by investigators from the RAND Corporation, the CRGC convened scholars from several organizations and institutions to undertake a multi-disciplinary, mixed-methods approach addressing major cross-cutting issues of concern to Gulf region stakeholders and decision makers ([Finucane et al.](#)).

The CRGC's work featured several components, four of which are pertinent to our discussions here. First, collaborators from the University of Southern Alabama led a Community Health Worker Program, which trained and placed seven local community health workers in communities in Louisiana and Alabama impacted by the Deepwater Horizon disaster. Second, collaborators from George Washington University and Tulane University launched a Disaster Resilience Leadership Fellowship Program to convene and train a group of emerging local leaders at two sites, one representing Louisiana's five coastal parishes, and one in coastal Alabama. The program was designed to foster

disaster resilience leadership capacity and aid coordination across multiple sectors and systems. Third, the CRGC established a Stakeholder Advisory Committee to incorporate local perspectives and priorities regarding the environmental, health, social, economic, and cultural context of CRGC activities. The committee members represented a range of sectors and backgrounds from the two Gulf states in which CRGC worked, including local government leaders and heads of nonprofits, and all were asked to provide feedback and recommendations about CRGC's activities.

Fourth, and the subject of this article, was a cross-sectional in-person survey carried out by our research team from Tulane University in 2017. The survey was implemented in the three communities where the CRGC project had placed community health workers: lower Plaquemines Parish, Louisiana (hereafter "Plaquemines"); lower Lafourche Parish, Louisiana (hereafter "Lafourche"); and lower Mobile County, Alabama (hereafter "Alabama"). (We have kept place names general throughout this article in order to maintain the confidentiality of the collaborators we interviewed.) These three communities had initially been chosen for the Community Health Worker Program based on four selection criteria: (a) communities defined by geography; (b) the presence of active and effective community- or faith-based organizations operating in the community; (c) pre-existing relationships between project researchers and community organizations, activists and leaders; and (d) characteristics including resource dependent economies, presence of vulnerable populations, and significant negative impacts from Deepwater Horizon oil spill.

The 60-min in-person survey investigated the role of social networks, risk perception, preparedness measures, individual resilience, and demographics as predictors of preparedness and resilience for future hydrocarbon (oil spill) and other disaster events among households in the Gulf of Mexico. Between June and November 2017, 21 trained data collectors administered the IRB-approved survey (Tulane IRB Study #997431) to 326 individuals across all three sites. The data collectors were all Tulane University graduate students and faculty except for three data collectors in Alabama who were staff of our community partner organization there and administered the survey in Vietnamese. The survey instrument is a product of cross-disciplinary collaboration between CRGC researchers and features questions about participants' social networks, images participants associate with oil spills, past disaster exposure including disasters caused by both natural and technological hazards, oil spill disaster planning and risk perception based on the Protective Action Decision Model (Lindell and Perry 2004, 2012), perceived oil spill consequences, attitudes about job retraining and relocation for work, resilience attributes based on the 10-item Connor-Davidson Resilience Scale (Connor and Davidson 2003; Campbell-Sills and Stein 2007) and participant demographics.

Participants were to be recruited for participation in the study through probability sampling: a contracted outside vendor mailed recruitment materials to residents in target areas using an existing database maintained by the vendor. However, in the case of Plaquemines where the population size is smaller than in Lafourche, and in Alabama where there were language and cultural issues in recruiting from the large Vietnamese immigrant community, we were unable to meet our recruitment targets of 100 adults at each site through probability sampling. With response rates of less than 10 percent in those two communities, we worked with our community partners to carry out word-of-mouth recruitment as well.<sup>1</sup> In Lafourche we were able to recruit our target number of participants through probability recruitment. Given the rural context of our research sites, where several of the communities are isolated, making transportation a major issue as reported by our community partners, the research team thus had to re-strategize data collection efforts after a lower than anticipated response rate. Low response rate in isolated, rural communities is common (Kornelsen et al. 2011; Prelog and Miller 2013) and some scholars have recommended nonprobability methods to address these issues (Groves 2006). Our community partners recommended after-the-fact that word-of-mouth recruitment would have

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<sup>1</sup> No dyads or family sets were allowed in the sample, therefore each respondent is considered independent regardless of whether recruited via probability or word-of-mouth sampling. Because we worked in small, relatively homogeneous communities, any potential error is likely equal and equivalent across participants regardless of the sampling procedure.

been more effective and time efficient in comparison to probability mail recruitment. All survey participants were given a \$50 Walmart gift card after completing the survey. Our work on the in-person survey component of the larger CRGC project is the subject of our reflection and critique here.

Although the three communities have a shared experience of repeated storms and flooding, similar economic drivers, and all were greatly affected by the Deepwater Horizon oil spill, demographic and cultural differences between them required attention from our research team. All three coastal communities are rural, and the oil and gas and fishing industries are the main economic engines (the fishing industry more dominant in Alabama). In 2016, the median household income in the area of our Plaquemines site was almost \$31,000, while in Lafourche it was \$52,000 and in Alabama it was almost \$41,000 (U.S. Census Bureau 2017). While the Plaquemines site is majority African American, the Lafourche site is majority White with small but significant Hispanic and Native American populations and a very small African American population. In Alabama the site's large Asian (mainly Vietnamese) and small African American and Hispanic populations provided a different context for our research (U.S. Census Bureau 2017). The Lafourche site features a significant population of French speakers who self-identify as Cajun, and there are a large number of native Vietnamese speakers in the Alabama site. Given these cultural and socio-economic variations between communities, the work of local partner organizations in translating CRGC's research agenda to local needs became even more important (Kerstetter 2012; Merton 1972).

### 1.3. Our University-Community Partnerships

In this paper, we use the term “community engagement in research” to denote instances in which researchers employed at academic institutions or research organizations work with people who are non-researchers (e.g., lay residents of a particular area, government officials, staff of NGOs, members of local organizations) to address and investigate topics of concern to all parties involved. Winters and Patel (2003) refine the definition of community-engaged health research—a field in which community engagement has a long and rich history—as “the simultaneous and multifaceted engagement of supported and adequately resourced communities and relevant agencies around an issue or set of issues, in order to raise awareness, assess and articulate need, and achieve sustained and equitable provision of appropriate services.” More recently, Warren et al. (2018) have offered a suite of definitions of collaborative, community engaged scholarship (CCES) as: “a collaborative enterprise between academic researchers and community members; CCES validates multiple sources of knowledge and promotes the use of multiple methods of discovery and dissemination of the knowledge produced; and CCES has as its goal not just knowledge production but also social action and social change for the purpose of achieving social justice.”

Some scholars and practitioners have conceptualized researcher-community partnerships specifically within disaster contexts as well. Teams working in post-disaster settings in the Gulf South have used Community-Based Participatory Research (CBPR) approaches to build case studies and create agendas that reflect the local needs and context specific to the disaster (Farquhar and Dobson 2004; Cordasco et al. 2007; Wennerstrom et al. 2011). Peterson (2015, p. 86), discussing her Participatory Action Research (PAR) with rural, post-disaster communities in coastal Louisiana, urges collaborative project designs that address “the ways research can help in solving real-world problems in a real-place laboratory within the midst of a community” in order to develop “transferable models” and “workable, sustainable solutions.” Incorporating traditional ecological and indigenous knowledge into disaster risk reduction work using community participatory methods has been urged by some researchers to address the socio-economic and political aspects of disasters and to create more effective, equitable policy (Mercer et al. 2010). In post-earthquake Haiti, many scholars called upon disaster volunteers, including university-affiliated teams, to enter into solidarity partnerships with Haitian grassroots organizations taking the lead (Bell 2013; Ulysse 2015). From the position of U.S. academic medical teams, Sarani et al. (2012) stated “Working with an established NGO allowed university-based surgical teams to render coordinated care to a large number of patients in

need at separate and distant sites from the epicenter” due to their local knowledge. Schuller (2010, 2016) trained and supervised eight Haitian student researchers not only to gather people’s stories and voices from dozens of makeshift displacement camps around Port-au-Prince, but to exhaustively document each camp’s assets and needs in partnership with camp resident committees.

From such ethical community engagement and researcher-community partnerships, research results can convey detailed material, social and psychological needs and demands. Researcher-community partnerships within a CBPR framework provide a means of gauging the reality and specificity of disaster experiences and impacts that echo the complexities of community life in a post-disaster context. Many CBPR methodologies employed in post-disaster settings address disaster mitigation and “set the stage for how the next disaster will be addressed” (Estrella et al. 2000; Eisenman et al. 2009; Farquhar and Dobson 2004). The emphasis on preparation contains an assumption of future, recurring disaster. As such, this article offers a set of best practices and preparatory measures researchers can take before entering a community that has endured multiple disasters.

There is a vast continuum of community engagement in research, from involving community members in all aspects of a project including conception, development, and data collection, to community playing merely an advisory role, to using broader public venues for dissemination of research results (Lesen 2015; Yuan et al. 2016). The extent and methods of community engagement or public participation should ideally be designed to respond to the goals for a project (Cumberbatch 2015). In our case, the goals of the 2017 in-person survey were to gain knowledge of—and inform local and state leaders about—how individuals and households prepare for and are affected by oil spills and other disasters in the Gulf of Mexico region. In October of 2015 as the CRGC project commenced, researchers visited the two Louisiana communities to elicit input from local community members about the overall project. In June 2016, CRGC researchers visited the Alabama community seeking additional advice from stakeholders there. Additionally, during development of the survey instrument, researchers presented a draft to the Stakeholder Advisory Committee for comments. The research team made changes to the survey based on this feedback, altering the wording of questions and ensuring inclusion of the diversity in the region by listing additional language and ethnicity choices in the demographic portion of the survey.

We entered into these three research sites with the awareness that we would need to rely on local partners to physically host us and to engender goodwill towards a research agenda centered on “resilience,” a concept with multiple, context-dependent meanings (Hobfoll et al. 2015). For these Gulf Coast communities that have experienced multiple, repeated (and sometimes almost simultaneous) disasters with different and possibly unprecedented effects (Finucane et al.), we embrace those concepts of resilience that encompass individuals, communities, and their environments over multiple timescales (Hobfoll et al. 2015) and acknowledge resilience as a process of adaptation (Neenan 2009), rather than “bouncing back” to a pre-stressor state. Our work rests on a foundation of scholarship measuring and conceptualizing both individual and community resilience (Bonanno et al. 2015; Connor and Davidson 2003; Cutter et al. 2014). The larger CRGC project recognizes that individuals and communities are part of dynamic, complex and adaptive systems, and that social and ecological conditions can change unexpectedly following disasters (Finucane et al.). Because of the heterogeneity between these three research sites, we worked with the understanding that resilience is relative, and varies across geospatial, individual and community levels (Bronfenbrenner 1977; Patel et al. 2018). Scholarly approaches to the systems that foster pre-disaster vulnerability and post-disaster resilience (Norris et al. 2008) emphasize the importance of meso-level brokers, such as our partner organizations, in strengthening engagement between communities and researchers from outside the community (Madsen and O’Mullan 2016). These organizations vouchsafed our research agenda to disaster-affected populations that are perhaps over-surveyed and may perceive outside researchers as extractive elites (Ferreira et al. 2015; Hochschild 2016).

Our university-based research team was comprised of outsiders affiliated with a socioeconomically elite private college, Tulane University, located in New Orleans, the nearest large city. In searching

for sites to administer the survey, we looked for centrally-located places where several rooms might be available so that our research team could simultaneously survey multiple respondents while maintaining privacy. Ultimately, the relationships that had already been established by CRGC researchers connected the Tulane team with sites and partners that met these criteria. In Plaquemines, our community partner site is a facility that provides services to the community, and in Lafourche, our partner site is a local organization that provides education and information. In Alabama, we partnered with a nonprofit community-based organization that provides direct services to the community, particularly immigrants. In Plaquemines and Alabama, we approached partner sites where community health workers had been trained, funded and placed by the University of Southern Alabama CRGC team. These existing relationships with the CRGC project were made possible by goodwill and trust that emerged from collaborative community-researcher work on programs viewed as beneficial by the wider community and the organizations that host the health workers. In Alabama, one of the organization leaders was also a member of the Stakeholder Advisory Committee and thus brought an additional layer of relationship with CRGC. In Lafourche, we were referred to our partners by an alumnus of the CRGC's Disaster Resilience Leadership Fellowship Program, who told us that the site was both well-regarded and centrally located in the community. And although they had no previous connection or experience with us or with the CRGC project, the staff at the Lafourche site were extremely accommodating when we approached them with information about the survey project and our request. Indeed, all the community partners at selected sites generously agreed to accommodate several researchers occupying rooms and public-facing spaces in their buildings for multiple days over multiple weeks during the summer and autumn of 2017. All three sites devoted significant time, space, and staff to the survey effort.

With the knowledge that these communities had experienced repetitive disasters—and had often been sites of data collection after a disaster—we reasoned that it might be difficult to recruit our target of 100 participants through mailing materials to randomly-selected residents, and thus it might be necessary to supplement our probability recruitment efforts with word-of-mouth and snowball sampling. In Plaquemines and Alabama, this proved to be true, and our partners were invaluable in carrying out word-of-mouth recruitment in the community. Because of the large number of non-English speakers in lower Mobile County, Alabama we worked very closely with our community partner there to translate the survey into Vietnamese, and we trained Vietnamese speakers on their staff as survey administrators. Thus, the staff at the Alabama partner organization became members of our research team.

#### *1.4. Methods of Critical Reflection: Interviewing Our Community Partners*

Because residents of all three sites have such breadth of experience with disasters, we were cognizant that they may have come to expect post-hoc research as an element of the disaster response and recovery processes: our work seeks insight into working with populations we consider “survey-weary” or “research-burdened” (Clark 2008). Given Hochschild (2016) work detailing the perceived gulf between regional residents and academics in the region, self-reflection and critical awareness of our role remained at the forefront of our concerns. Previous scholarship—particularly work within frameworks of feminist methodologies—emphasizes researcher-community relationships as well as the importance of researcher self-reflection about power dynamics and privilege and the need for honest discussion about these deliberations with community partners (Campbell and Lassiter 2010; Creese and Frisby 2011; Muhammad et al. 2015; Wallerstein and Duran 2006). Some practitioners of community-engaged and participatory research have highlighted the need to interview and dialogue with community members and stakeholders and directly involve community partners in evaluating the process, results, and impacts of research projects, offering both quantitative and qualitative examples of ways to assess projects (Estrella et al. 2000; Jupp and Ali 2013; van den Muijzenberg 1996). Farquhar and Dobson (2004) case study following Hurricane Floyd presents academic-community partnerships as a means of amplifying grassroots efforts to document discrimination and an

opportunity to complement and disseminate community-collected data by sharing analytical tools and access to university resources. In a rare article authored by leaders of community organizations with long histories of partnering with researchers, [Caldwell et al. \(2015\)](#) state that “conducting partnership evaluation and using results to improve how partners work together” is a key practice that helps create effective community-researcher relationships. [Le Dé et al. \(2015\)](#), considering their own post disaster work in rural Samoa, state that “academic studies documenting the process and outcomes of the participatory disaster research are still rare” and that deeper reflection is needed “in order to improve our practice with local communities.”

In order to heed these recommendations and findings from previous scholarship, and reflect on our own community-engagement practices in this project, we carried out semi-structured interviews with the main staff contacts at our community partner organizations approximately six months after the completion of our data collection. The interview instruments were IRB-approved (Tulane IRB Study #997431) and we used standard informed consent procedures for human subjects research that included a statement that the identities of the interview subjects would be kept anonymous and confidential in all publications. Interviews lasted approximately 60 min, and some interviews were conducted with one individual while others were conducted with two or three staff members together. Eight people total were interviewed for preparation of this publication. These eight people represent all the community partners and partner organizations we worked with on this project. In Lafourche, we interviewed the two administrative staff members of our partner organization there with whom we had initially made contact and who helped us organize all the logistics of our work in Lafourche. In Plaquemines, we interviewed the administrator who facilitated all our work at the facility, along with the staff member who aided us in word-of-mouth recruitment. In Alabama, we interviewed the administrator of the partner organization, and we also interviewed the three staff members who work at the site where we did our data collection; those three staff also carried out the word-of-mouth recruitment and were the only community partners who administered the survey (to Vietnamese speakers). The interviews were carried out by members of our Tulane research team, digitally audio recorded, and transcribed by an outside contracted transcriber. All co-authors read each transcript to identify important quotes from each interview and compiled a list of themes. Then the co-authors met and discussed each others’ lists of interview highlights and themes and combined them into one document, from which results reported below were taken.

The interviews ranged across topics integral to the process of carrying out a community survey including trust, communication, community context, and beneficial research impacts (the complete interview questions may be found in [Appendix A](#)). The interviews included key questions about what researchers should know about the local communities and the organization’s work, and sought advice about the best ways and times to share the data collected from our in-person survey with the community ([Macpherson et al. 2014](#)). In revisiting the sites of our research to interview our community partners, we hoped to illuminate the social impacts of both oil spill disasters and disaster research itself in affected communities ([Bolin and Stanford 1998](#); [Perry and Quarantelli 2005](#); [Quarantelli 1989](#); [Quarantelli and Dynes 1977](#)). Scholars have debated on “insider/outsider” dynamics of research conducted at the community level, and in these post-hoc interviews conducted with representatives of community organizations, we sought to enrich the data by expanding the presence of the “insider” voice in the CRGC’s results ([Kerstetter 2012](#); [Merton 1972](#)). Conversations with staff at our partner organizations were efforts to approximate Merton’s conceptualization of the “total insider,” and illuminate the perspectives of community members whose social status sets mirrored many of the interviewees’ ([Merton 1972](#)). We were interested in understanding ways that the staff of our partner organizations, especially those who assisted with recruitment, may have served as “community brokers,” able to cross barriers between recruitment methods outlined in our research agenda to raise our response rates ([Fadiman 1997](#)). A main objective, then, in interviewing these community brokers, was to deepen our understanding of the Deepwater Horizon spill’s lasting effects on residents and understand the event as a community disaster ([Cope et al. 2013](#); [Hobfoll 1998](#);

Hobfoll and Jackson 1991). In all, the semi-structured interviews provided a means to interrogate the working theories of partnership that the researchers and community partners both held before, during, and after collaboration in this project—and to learn how university researchers might be better, more responsive partners in future projects (Bacon 2002; Israel et al. 1998; Picou 2011).

## 2. Results and Discussion

As noted above, each survey site had a different history in connection with the CRGC project. In the case of Alabama and Plaquemines, the CRGC Community Health Worker Program had established a strong and fruitful connection between the CRGC researchers and the locations where the surveys were conducted. This built-in trust from long-term collaboration facilitated an optimistic perspective from the community partners since benefits had been seen from that program. This article is meant to make transparent and analyze the forms of collaboration with community partners. As community brokers, the site coordinators spoke with some authority about how the survey had been received by their community, what motivated people to participate and what could have been improved in the process of setting up the survey or within the survey questions themselves. Table 1 summarizes some of the key findings that we discuss in detail here, and their significance for disaster research practices.

**Table 1.** Summary of some key findings from interviews with community partners, with significance for broader community-based disaster research methods.

Finding from Community Partner Interviews	Significance for Community-Based Disaster Research
Communities may “feel forgotten,” especially after a disaster with long-term effects such as a major oil spill. A sense of being remembered by participating in research may increase a community’s openness to accepting researchers.	Post-disaster communities that experience impacts for years may be more open to research and to researchers from outside the community than in other contexts. However, when designing projects in post-disaster communities, it is important to ascertain how findings and partnerships could be most valuable to community members who may be experiencing “research fatigue.”
Local media (such as newspapers) and community networks are valued resources for the flow of information.	Locally-specific, offline media or word-of-mouth may be amongst the most effective means of disseminating research findings to local communities or recruiting participants, especially in rural post-disaster communities.
Community partner organizations may be able to use disaster research results to bring attention to their communities, develop programs, or seek funding.	Even years after a disaster, community organizations may have a great need for information. Researchers should consult with community partners when developing projects in order to ensure the greatest value to partners and communities.
Language and vocabulary may be a barrier to research participation for some community members.	In the planning stages, it is important for researchers to consult with local community partners to limit use of jargon in the survey instrument, especially when working in immigrant communities where English is a second language.
Participating in research focused on disaster impacts and preparedness may inspire residents in disaster-vulnerable communities to think more deeply about preparing for future disasters.	Even though participating in disaster research can be a time burden for community members, it can also present an opportunity to set aside the time to think about disaster experience and preparation.
Familiar faces and settings build trust.	Selecting research sites that are familiar public venues ensures that participants have the opportunity to verify researcher intentions with trusted community members. Random sampling may get community members “in the door” and acquainted with community partners’ resources for the first time.
Communication, rapport, and interpersonal interactions between researchers and participants are key.	In the Gulf South, friendliness is more than routine: taking time to connect and listen builds trust. It is important to fully describe the aims and methods of the study to participants and community partners and to teach data collectors about the area’s disaster history.
Partners serving communities recovering from disaster may be optimistic about the power of research.	As researchers approach partner organizations, ethical considerations should include a frank conversation about the potential benefits of the research agenda to the community—and name elements and external factors that may prevent those benefits from taking place.

### 2.1. Trust and Relationship-Building

Across the Gulf Coast, research of all kinds—quantitative surveys, qualitative interviews, focus groups, and more—has been performed in and about local communities by organizations and universities that may not always have the community’s short- or long-term benefit in mind (Peterson 2015). Even good intentions can only go so far without reliable collaboration and accountability (Halseth et al. 2016; Yuan et al. 2016). Local residents do appear to rely on community representatives like those at our partner organization in Plaquemines to vet researchers and build accountability so that the time and experiences they share come to assist them in some way. “I think



what helped, too, also, is to know that they had someone who was a familiar face and a trusted person in the community to say okay," said a Plaquemines staff member. "Because a lot of people kind of shun from outsiders. I mean, not in a bad way. But you know, they don't really put their trust in—a lot of people burning their bridges over the years. So it helped out having people who was a familiar face in the community." The familiar faces of staff who are local residents themselves, and cultural insiders, helped residents engage with the survey at the two other sites as well. Building trust with community stakeholders, such as our partner organizations, is often a necessary precursor to engaging and gaining trust with the greater community (Christopher et al. 2008; Moreno et al. 2009; Kerstetter 2012; Frerichs et al. 2017). Working with "insider" community organizations is particularly important in post-disaster situations where distrust of outsiders is often high, especially amongst the most vulnerable populations (Wells et al. 2013).

In Alabama (where partner staff conducted surveys), many Vietnamese residents rely on our partner organization to be guardians of and advocates for their stories. "From all the years that we've been here, they start to open up more to us than before," a long-time staff member said. "And from the survey, I know...there's still some that don't want to fully express their feelings, something like that. But there are some, they go over [laughs], over the line and tell us literally almost everything. I guess the trust with them and us, they kind of build up like more and more." This trust was gained over many years and likely had dramatic effects on the outcome of this survey. The reticence to share information with researchers (people from outside the community), would have continued without local staff doing recruitment for the survey. However, even with Alabama staff both hosting and conducting the survey, there were residents critical of the research. "When the survey came, there was a lot of information they didn't understand, that they did hold back. But that trust was there already," said another Alabama staff member. "So they were a *little* bit more open than they would have been before that." The number of surveys conducted in particular communities can produce the effect of "research fatigue", where communities may avoid partaking in research opportunities, even if potentially beneficial, due to the ongoing process of turning their experiences into an object of study for someone else, especially when any tangible impacts are invisible to them (Clark 2008). This is especially true in post-disaster situations when community members often feel over-burdened by numerous studies and may be loath to share their experiences with outside researchers who they feel may not be able to understand what they've been through (Fleischman and Wood 2002; Haney and Elliott 2013; Hoffman 1999). Without our Alabama community partner taking on much of the recruitment to create even that 'little bit' of openness, the survey may have been ignored completely by the Vietnamese population there: we found that few Vietnamese-speakers responded to the mailed invitation letters. Our experience aligns with the work of Vaughn et al. (2017), who found in a comprehensive literature review that using community-based research methods when working with immigrant communities can enhance the rigor of the research, increase recruitment, and result in richer benefits to the communities themselves, with immigrant-serving agencies (such as our community partner organization in Alabama) being valuable bridges between community members and researchers.

In Lafourche, the survey was conducted inside an established and trusted community institution. "It's where community people come," said one staff member. "So, it seemed like a logical choice." The Lafourche staff had experience hosting federal agencies that came to provide assistance in the wake of the oil spill, but they had not yet worked with researchers. As the one survey site without a previous history with the CRGC, the trust was not built-in, but was established through early meetings with the research team and during the survey administration days themselves. "We didn't have any issues. Everything seemed to flow," said one staff member. Another added, "It went really smooth. You know, it really, really—no complaints whatsoever. You all are here on time. You all picked up. It went really, really good." The research team met the expectations of the partner organization throughout data collection in the sense that the team respected the organization, its rules, and did not create additional work or hardship for its staff.

Our Lafourche partners expressed a perspective that exudes the cultural values of the area. As one staff explained: “We try to be welcoming. And we try not to get in the way too much. I mean, there are certain things that we have to follow based on our rules and our guidelines . . . As far as best practices, I’m not sure. We’re friendly, we’re welcoming, and we try to be accommodating.” Throughout these follow-up interviews, community brokers framed friendliness and welcoming as qualities that researchers needed to value and demonstrate in order to establish rapport with residents (Castleden et al. 2012). “A lot of people try to be professional. Which is wonderful in a way. But our people, they want to shake your hand. They want to see you,” said one staff member. Another commented that: “They like to know your name . . . And call them by their name and smile. You make them feel at home, pretty much, and they’ll talk to you as long as you need them to talk.” Throughout the days of survey collection in Lafourche—and indeed at the other two sites as well—interviewers built trust with the organization’s staff and residents by reflecting back the friendliness that they received and allowing the interviewees space and time to tell the stories they needed to tell. It was not uncommon for interviews to go beyond the expected one hour due to people’s eagerness to share their life, even with strangers. The act of listening and giving respect to residents by researchers is key to building trust in the eyes of one staff member who said: “my husband’s a trawler, okay? He went to tenth grade. If you’re going to come in—and he’s a nice guy, whatever—but if you’re going to come here and act like you know everything, you’re a profession[al], you’ve got this college degree, and his working on the water for 40 years doesn’t mean anything, or talk down to him, he will get up and walk out the door. And you see that a lot. Not just with him.” She emphasized that those who “talk book smart” and those who are “hand smart and work smart” both have important roles to play and researchers need to speak in a more common, direct way that would remove the implied social distance created by using academic language. As one staff member reiterated, “it’s a matter of talking with someone, not to someone” that will provide “a whole lot more answers and feedback.” While respondents in the initial survey received compensation, these comments may reflect previous interactions with outside researchers characterized by a lack of interpersonal interest, relationships that may have prioritized transactional interactions over reciprocal ones (Sandy and Holland 2006). Other studies foregrounding the voices of community research partners have highlighted the importance of attending to these types of cultural differences when building university-community partnerships (Barnes et al. 2009).

Unlike the Alabama residents who may be experiencing survey fatigue common to communities in post-disaster areas, the Lafourche staff’s perception of their community’s attitudes was quite different. “I think if anything, it [the survey] lets people know that they’re not forgotten and that people are interested in the things that they’re affected by. So no, I don’t think that they are [tired of doing surveys],” said one staff member. She continued: “People do feel frustrated at times and feel forgotten and less-than.” The staff in Plaquemines agreed to host the survey because they saw the research inquiry in a similar way: “Just to try to build our community. And so that people in the community would say, ‘We’re not forgotten about.’ That’s the main thing.” This position is a riposte to the ‘common sense’ critique of research that an over-studied region would *automatically* feel ‘fatigue’ about questions on their community (Haney and Elliott 2013). Indeed, residents in post-disaster situations may tire of being researched after many studies, especially if few results are made tangible (Rademacher 2013), but the interviews with our partners indicate that this is conditional on local experience, relationships with researchers, and meaning derived from the specific study. Our partners’ comments point to the unique circumstances of doing community-based research with communities that have experienced major disasters with long-term effects, such as a large oil spill. These communities may struggle with disaster impacts for years, and this may cause community members to be more open to “outsider” researchers than in other research contexts.

This sense of *being remembered* is often crucial to a community’s openness to accepting researchers. And yet the paradox is that researchers, as outsiders, carry an inherent blind spot to this sentiment and cannot know and should not assume that the community feels forgotten and that their study

conveniently fulfills this sense of being remembered. Even researchers who are themselves community ‘insiders,’ in some way *from down here*, could productively grapple with these questions. This highlights the importance of research projects that prioritize building relationships in communities where they want to work, and take time before-the-fact to find out the level and nature of community interest and needs for research (Sandy and Holland 2006). We initially approached community partner organizations because they function as local caretakers, and during the data collection period, they noticed the care that our research team took in interactions with their physical spaces, local staff and clientele: this reaffirms best practices learned from other CBPR practitioners (Castleden et al. 2012; Le Dé et al. 2015; Damon et al. 2017).

It is important to point out that disaster contexts differ significantly from other research contexts, especially if a large-scale disaster with long-term effects has impacted the community. This has implications for academic-community partnerships. Because social, political, and economic influences are so important in determining the effects of a disaster (Wisner Ben et al. 2004), and because participants who are included in disaster research are often from marginalized populations, participatory research strategies are particularly crucial for addressing disaster vulnerability and reducing disaster risk (Mercer et al. 2008). Post-disaster Participatory Action Research has the potential to bring together leaders from different communities or organizations across a region, who are then able to learn from each other’s experiences and to share best practices of disaster response and recovery (Laska and Peterson 2011). In this case, a participatory research project can be the hub of a helpful network of community members or organizations, a silver lining of collaboration that often comes out of collective tragedy (Solnit 2009). In a disaster context, communities might be focused on recovery for long periods of time and may experience forms of either personal or collective trauma for years after a disaster (Dunlop et al. 2016). Working in post-disaster settings requires attention to unique ethical issues, such as the possible need to provide assistance if the research causes emotional distress, or considerations about the timing of research after a disaster (Ferreira et al. 2015). In an ideal world, academic and community partnerships would already be formed pre-disaster, increasing the equity of collaboration between academic institutions and community organizations as elements of disaster “converge” (Laska and Peterson 2011). These relationships flourish when researchers and partner organizations proceed with care: care for the project goals, the partnership, the host community and the physical space of research (Ponic et al. 2010). These unique aspects of community-engaged disaster research further emphasize the importance of trust and respectful, equitable relationship-building between researchers and community members in disaster-vulnerable communities (Norris et al. 2008).

## 2.2. Working Together: Communication, Logistics, and Information Sharing

In their evaluation of how the survey process was conducted from start to finish, our community partners often talked about the communication between researchers and staff. Specifically, our Alabama partners emphasized “clear and concise” communication: “state...exactly what you want to be done and need[s] to be done so that we don’t have [a] misunderstanding.” Partners in Plaquemines similarly described that “communication is the key” and a “number one” priority. In their own work, staff of local organizations must communicate effectively for successful outreach campaigns, for advocacy and social services. In research contexts, the value community workers place on direct communication is an asset to university partners because it can facilitate a higher quality of research data, improved recruitment of participants and allow trust to build within the university-community partnership (Muhammad et al. 2015). The communication of information, services and relationships that bind them to community members is a form of accountability that community organizations, in turn, expect from well-intentioned university partnerships (Yuan et al. 2016). Open, honest, two-way communication is often identified as one of the most crucial components of building respectful and effective partnerships between researchers and community organizations (Barnes et al. 2009; McNall et al. 2009). The issue of communication was particularly emphasized in Alabama because of the significant role the community partner played in recruiting participants and in translating and administering the survey in Vietnamese.

Issues with communication and information sharing between the researchers and community partners were most apparent in Lafourche Parish, which was a first-time collaboration with no prior relationship to the CRGC. As one Lafourche staff member said in the interview one year after the survey, “We didn’t really have [an impression of the project]. We just know you all needed the space, and we provided it.” In a customary welcoming attitude, another staff member demonstrated more familiarity: “we knew that you guys were trying to research various aspects pertaining to Gulf life, and in particular Gulf life after the oil spill. And we’ve had a lot of people, really, that were impacted by that. You know, we’re here to help our community. So that just seemed like another, another avenue to do it.” Still, this familiarity had its limits when the same person later shared that “We don’t really know anyone else that’s affiliated with this project beyond the people, you guys, that we’ve seen come in. So we don’t know who your partners are, anything to that effect.” At that moment within the interview, the university researcher made the decision to take the time to summarize the history and purpose of the research in case it hadn’t been made clear from the beginning. University-community partnerships are often brokered between organizational leaders and academics (Sandy and Holland 2006). On-site staff at partner organizations may have an excellent idea of how research and university resources could benefit the broader community, but out of deference to organizational power structures, their input is often overlooked during the design phase (Ferreira et al. 2015; Quinn and Kiernan 2017). In our case, if the research design had included what Hebert-Beirne et al. (2018) call “transformative communication spaces” to build trust and a dynamic praxis throughout each stage, higher levels of knowledge sharing might have been achieved.

Despite limited knowledge beforehand, on-site staff at partner organizations did have their own follow up question about the survey’s future: “So you all are making recommendations as part of this study?” At the time, the analysis of survey data was ongoing and the staff in Lafourche and in Alabama had made clear that they were also trying to understand how the survey results could impact their community.

### *2.3. Benefits to Community Partners and Residents*

Community partners in all three locations described practical benefits and impacts from hosting the survey. In Lafourche, partners attributed greater exposure of the site and its services to more potential patrons—residents taking the survey accompanied by their family members. “It got people in the door that might have never been in here before. So that helps us out real good, too. It’s like ‘oh, we’re meeting with these people, and then oh, look, we have this here...They have these programs’” said a staff member in Lafourche. Another added, “They might not have known. I mean, even though we’ve been here a while, we still have some people that don’t know that it’s such a resource. They know it’s here, but they don’t really know what we offer.” In this sense, the randomized sample of recruitment letters sent in the mail had an unexpected positive side effect in Lafourche by bringing people unrelated to the host organization into its space. This would be far less likely using only snowball sampling.

A community partner in Alabama immediately saw the potential benefits starting with the first proposal made by researchers affiliated with this project: “I think we need to find out what the needs of the community [are], we need to highlight some of these needs to let larger public knows about what our community is experiencing. So, we want to bring as much attention to all the community or other viewers outside of this area to understand the issues that the community is going through.” This awareness of how research can help shape public perception and public policy matches our aspirations as researchers for the outcomes we hope to produce from community engagement in this survey project. He continued to speak about how the survey could benefit the community: “Hopefully these survey[s] go to the right readers. They can see where the needs are. And hopefully they can direct services or funding to address those needs for community members here.” The desire for a direct connection between social research that exposes needs and stirs foundations, charities, non-profits, or government agencies to create appropriate local programs is a clear ideal here (Minkler 2004).

By setting that optimistic expectation, it also puts into motion its possible fulfillment and certainly creates a practical benchmark for university-community partnerships to attain. And if the scholarship itself does not help establish new programs, our partner indicated there would be indirect but beneficial ends to the survey: “Hopefully we can use some of this data to our advantage in terms of writing grants. We can reference this,” the partner said. Funders “need statistics. They want to see what information you have. So, you definitely need those statistics to back us up,” he concluded. Access to information and knowledge; additional opportunities for funding; the potential for utilizing newly gained information for policy recommendations; and increased capacity for doing research are also amongst the benefits experienced by other community organizations with long histories of partnering with researchers (Caldwell et al. 2015).

In contrast to these more programmatic, quantifiable benefits, one staff member in Alabama offered the more indirect benefit of the survey providing dedicated time for residents to think about preparation and response to disasters caused by both natural and technological hazards. “...when we’re struggling, we live day by day. And we don’t think about the future or something [else that could] happen like if they get sick,” the staff member shared. “So, it kind of took them back to thinking...as a whole with their health and their work.” Certain survey questions seem to have elicited participants’ reflections about their experiences and future. While we are not able to quantify this, the staff member above believes that participation in the survey (a major focus of which was disaster preparedness) did prompt some participants to gauge their own preparedness for future disasters—or even could have inspired people to plan ahead—precisely because the questions did not always focus on the here and now of their daily lives. Similarly, Clark (2010) found that the opportunity for introspection or learning about matters of interest was a key reason why some people agree to participate in interviews and surveys as part of research studies.

We hope, of course, that further benefits may come from publishing analyses of the 2017 survey and disseminating the information through the host communities (Wall et al. 2017; Quinn and Kiernan 2017). However, as with funding cycles or attempts to establish governmental programs to address recommendations laid out in social research projects, there is no guarantee and often no clear line or simple causation between a research survey and improved quality of life in a given area. But despite this knowledge, the community partners remain optimistic and perceive the survey partnership as mutually beneficial. The optimism that fueled their initial agreement to host the survey fits well with broader literature discussing community resilience after disaster (Norris et al. 2008; Macpherson et al. 2014; Carpenter 2015); CBPR practitioners would do well to consider the ways in which “lay” optimism about the power of research may function as a hidden driver for community willingness to partner with academic institutions (Sandy and Holland 2006).

#### *2.4. Community Partners: Resources, Commitments, Burdens*

The perception of benefits was incredibly important when it came to the resources and commitment that partners contributed to survey recruitment and implementation efforts. Whether the community partners opened up private interview spaces on non-working days to accommodate the survey team or stayed over the weekend to conduct surveys themselves (as was the case in Alabama), the survey project was an addition to the demands of normal work responsibilities. The partner organizations in Plaquemines and Alabama had received multi-year funding from the larger project for their Community Health Worker programs, but the Alabama partner was also given additional funding to cover the costs of staff time spent in recruitment and survey administration due to their expanded role. The incredible flexibility of our hosts at the community sites allowed this survey to reach its participation goals. Only in Lafourche Parish (where the partner organization received no remuneration) did the university-based survey team wrap up the goal of 100 interviews without calling upon the hosts to assist in recruitment. We think this is potentially due to the Lafourche area having a larger population size, higher median income, and greater access to transportation to and from the survey site. In Plaquemines, recruitment strategies needed to be reassessed after participation

from mailed invitations fell off dramatically. The Plaquemines hosts spread the invitation through the community by word-of-mouth recruitment methods, after which participation goals were met swiftly. Difficulties with low survey response rates have been documented in the literature, especially in rural and low income communities, with multiple recruitment strategies that are designed for the specific local setting being recommended by some researchers (Edwards et al. 2014; Groves 2006; Kornelsen et al. 2011; Prelog and Miller 2013; Yancey et al. 2006). Harkening back to the value of communication, one community partner said, “you witnessed firsthand of our communication with our residents,” which happens rapidly because “a lot of people here are extended families. And they’re blended families. And then a lot of them like the seniors are in the same household. So, it transfers out into the community that way as well.” While social media benefits the communication and outreach for its other programming, seniors and their place of respect within Plaquemines’ community aided greatly in recruitment.

Reliance upon the community partner was clearest in Alabama, due to language barriers and the assistance needed to translate the survey and conduct interviews in various Vietnamese dialects. While the survey was designed to recruit the participants through probability sampling via an outside vendor, the Tulane-based research team understood that even with printed materials translated into Vietnamese, it would likely be very difficult to recruit this population through the mail. Our university-based research team did not include Vietnamese speakers. Therefore, the Alabama partner organization was contracted to help with both additional word-of-mouth recruitment and survey administration, especially for participants from the Vietnamese community. Community partners are crucially important liaisons between community members and researchers when working with immigrant communities (Lee et al. 2014). In Alabama, the two simultaneous recruitment processes created logistical complexity and caused some confusion for the community partner, who received both Vietnamese and English-speaking participants at their site.

Despite their optimism about the survey’s benefits, the Alabama surveyors from the partner organization expressed how the survey process began taking up more time than expected. “It’s recruitment. You have to call them up. Making sure that they come in on time for the appointment, remind them of that. And then [collect the data],” one staff member said. Trying to normalize this activity, he continued,

“But this is something that, it’s not unusual for us. I mean, we work a lot of programs in the past. And we’re able to juggle with that . . . Everyone wear different hats, many hats. So even though we bill 40 h a week, that’s not how many hours we work in a week. Sometimes we work way beyond that. This is a lot of hours to put in [for survey recruitment and conducting interviews].”

Corroborating that statement, a staff member who is also a mother shared that survey responsibilities took her away from her kids more than she would have liked. Furthermore, there were not always set times for survey administration for the participants they recruited, and as such it could interrupt the work day of staff members. “Basically...during the week, you know I try to work [surveys] in...with my work. But some of the days, we had like several of them that come in at the same time. So just take like one or two hours aside to get them done and get back to what I’m doing,” said one staff member. Part of the shift to an ad-hoc schedule was a response to survey participants not showing up at previously arranged times. It became untenable for staff to wait around to conduct interviews that often failed to happen, though it is unclear whether work obligations, transportation or something else prevented residents from keeping their appointments. The burdens of time and complicated logistics are often major challenges for community partners when collaborating with researchers (Bromley et al. 2015; Caldwell et al. 2015). These burdens can be lessened using CBPR practices that prioritize—to the greatest extent possible—the realities of community partners’ lives and schedules, involving the community partner in study design, and scheduling meetings and activities when it is convenient for community members and partner organization staff (Peterson 2015).

One community partner in Alabama addressed the logistical difficulty of having two separate organizations recruiting participants for the study at that site. They pleaded that “if in the future we have programs like this survey, I guess be a little more trust[ing] in us. And if you want us to do the survey or to educate the community, completely let us handle it. So that way we can manage who we can recruit and the number recruiting that you need.” This underscores an important lesson learned: the desire to incorporate mail-based probability recruitment was at odds with the realities of the resident population. While employing two different recruitment strategies led to the fulfillment of 100 participants, it placed a time burden on our partners and led to confusion. This reveals the importance of understanding how to better conduct recruitment and administer surveys within a non-English speaking community—especially a refugee community (Lee et al. 2014; van der Velde et al. 2009). To grow cultural competency among the entire research team, more preparation and adaptation of the survey and its recruitment process in consultation with the Alabama community partner could well have led to the greater trust and engagement spoken of above (Danso 2015). Building a research design with flexible recruitment strategies allowed the university-based researchers to incorporate the realities “from the field” of post-disaster communities (Halseth et al. 2016).

### *2.5. Language, Vocabulary, and Literacy as Research Equity Issues*

As highlighted by the Lafourche community partner whose husband is a commercial fisher, some positions within the seafood and oil and gas industries do not require completion of a high school degree or higher. In fact, the majority of our 326 survey participants had a high school education or lower. In Lafourche, 50.6% of respondents had finished high school or less, compared with 63.2% in Plaquemines and 65.5% of respondents in Alabama. According to our community partners, the educational disparity in Alabama may be explained by high numbers of Vietnamese refugees whose schooling had been interrupted by conflict. During development of the survey questions, CRGC’s researchers had consulted the local Stakeholder Advisory Committee for guidance. Still, staff members at our partner organizations emphasized that the language of a survey can reinforce a gap between the researchers and participants. This was most notable in Alabama, where staff at our partner organization could reflect on their first-hand experiences delivering the survey in Vietnamese. Although we had worked with the partner organization to get the survey translated, staff found the translated wording difficult, especially because of different dialects depending on a family’s origin in Vietnam: “...the language changes. Because a lot of words [in the translated survey]...I still don’t know what they are. So, we have to kind of use everyday language, instead of the correct grammar or...the technical term that they use. Sometimes...I had to go back and read the English [version] in order to understand.”

If the wording was difficult for our partners, it also provided a stumbling block for participants. A staff member reflected that “some of the questions they didn’t really understand, even though we tried to explain it...But they still kind of did not receive it...instead of truthfully answering, they’re answering what they think we’re looking for. So, I think that’s one of the downfalls of the survey.” Her colleague chimed in to shed light on some of the local dynamics: “the majority of the community here, the generation that came over here during the war, most of them are illiterate...So the surveys that you give us, even though it’s translated, we still have to read it to them. And if the word is too high of a level for them, we do have to bring it down to their level.” Language and vocabulary—especially when doing community-based research with immigrant communities or when there are other language and cultural differences between researchers and community members—have been found in other studies to be barriers to research participation and can decrease the usefulness of research for its intended target population (Johnson et al. 2009; Lee et al. 2014). This makes it all the more crucial to involve community partners early in the life of a research project in the formulation of research methods and in the writing, translation, and testing of surveys and other instruments (Lee et al. 2014; Mercer et al. 2010).

The partners in Alabama recommended that future data collection in the Vietnamese community include focus groups, because “that way at least we’ll have more time with them. And it’s more personal time, too. Actually, that way, that’s the only way I think that we can be able to get more from them.” Focus groups might provide a more informal data collection environment that gets at participants’ experiences by encouraging participants who may be concerned about what they think is the “right answer” to disclose more (Morgan 1996): “for a lot of [mothers], it [a focus group setting] give them some time to have their time... just to relax and not worry about work, and catch a meeting.” This comment pushed our post-survey reflections to consider the ways that our methods may have impacted the results gathered in the Vietnamese-language surveys: a focus group might allow participants to gather with peers to discuss emergency preparedness, while our survey asked questions of individuals in a one-on-one setting. Soliciting this feedback is part of opening up academic-community partnerships to what can be a “transformative” praxis over the long-term that incorporates locally situated, culturally appropriate research methods (Collier and Lawless 2016; Hebert-Beirne et al. 2018).

### 2.6. Disseminating Research Results to the Community

Acknowledging that rural communication preferences may be different from urban academic expectations (Winters et al. 2014), we asked for advice from the community partners during our 2018 follow-up interviews about the best ways to disseminate survey results and analysis to the communities they serve. The Pew Internet Study indicates that, despite a steady increase in Internet adoption, rural Americans are more than twice as likely as those who live in urban or suburban settings to never use the internet (Anderson et al. 2018). Remarks from our partners, who work daily to organize events and programs for their communities, illustrate that online outreach is not the most effective: instead, local print media connects parish-dwellers to one another. “People read *The Gazette*,” said one partner as she laughed. “And they don’t just read like certain parts. Like, they read *The Gazette*.” Both research sites in Louisiana recommended that the CRGC publish findings in local newspapers, and all three volunteered to make a handout available (to be prepared by the academic research team) with summaries and preliminary data analysis. Our partners in Alabama thought that they themselves could best distribute a one-page handout written in both English and Vietnamese. Other scholars have found that dissemination of research results in community-based projects is best done in close collaboration with community partners, and that unusual and innovative methods and settings may work best in certain settings, such as movie theaters, interactive presentations and two-way dialogue, or using culturally appropriate symbols to convey information rather than scientific graphs (Chen et al. 2010; McDavitt et al. 2016) Indeed, all three of our partner organizations reported offering a wide range of events and services on-site, which are often well-attended by their communities. Word about programs spreads through households, which are often multigenerational on the rural Gulf Coast: partner staff identified the elderly as key to their own communication efforts. Still, all our partners indicated that getting residents to attend events can be challenging, given the time and distance that often serve as barriers in rural settings (Kornelsen et al. 2011). Plaquemines staff described difficulties they encounter in motivating community members to attend events: “Number one, transportation is a...big issue...if you’re not...giving [incentives], then they’re not going to make that extra effort to come.” All three organizations suggested that financial incentive played an important role in getting survey respondents in the door but cautioned against relying on mere goodwill to bring respondents back. In Alabama, organizers half-joked to “come back at us with more money” to partner again.

### 2.7. Strengths and Limitations of This Study

There are several limitations of this study that are important to mention. Our sample size of eight interviews is small, and we worked in three communities on the Gulf Coast of the United States, thus the perspectives here are from a regional context. Considering the differences in demographics and culture between the three communities where we worked, some issues identified during the



interviews with our partners are likely specific to each population. Our recommendations below thus highlight the need for researchers to pay close attention to the specific characteristics of the communities where work is being done. It should also be noted that the larger project had provided community health worker funding that had benefitted our partner organizations in Plaquemines and Alabama, possibly positively influencing our community partners' attitudes about the project at those sites. Because of time and scheduling constraints, four people were interviewed along with their supervisors, which could have influenced the way people talked about the project. Lastly, at least six months had passed since the end of the data collection, so it is possible that some interviewees may have given different answers if they had been interviewed closer to the time of data collection.

Despite these limitations, the direct input and commentary of our community partners discussed here present an opportunity for critical reflection on the links between disaster scholarship and practice. Such reflection is rare in the literature on disaster preparedness and resilience and can inform future disaster research (Le Dé et al. 2015). Our process—re-engaging with community partners after a post-disaster research project to reflect on and evaluate community-based research practices—is applicable in many disaster research situations. The location of this study in communities impacted by multiple disasters, and the increasing prevalence of communities around the globe experiencing repeated disasters, makes our findings potentially relevant in a wide range of disaster-vulnerable settings (Prelog and Miller 2013; Karim 2018). We thus offer recommendations with the hope of informing disaster research across a range of contexts.

### 3. Recommendations

A main aim of this article is to identify lessons learned from our project and our collaboration with community partners, and best practices to inform future community-engaged research, especially in communities vulnerable to disasters. Interviews with our eight community partners produced a rich array of information on which to reflect. Some of the input we received revealed surprisingly positive outcomes, some was instructive and identified things we hope to do differently in the future, and some of the knowledge gained from this activity cemented the importance of longstanding axioms of community engagement. In this concluding section, we summarize some main points we took away from the process of analyzing and reflecting on the feedback from our collaborators and give recommendations to other disaster resilience researchers based on that introspection.

**Some disaster-vulnerable communities may be more responsive to research than expected.** As discussed in the first section of this article, there is a broad range of what constitutes “community engagement” in research (Cumberbatch 2015). As engagement-minded researchers, we typically strive for ensuring that our projects are on the most participatory end of the community-engaged research continuum (Chilvers and Kearnes 2015). We were surprised by how potentially valuable our community partners perceived our in-person survey research project to be, even when they had not been involved in conceiving the project or developing the survey, and even without having seen the survey results (which are still being analyzed as of this writing). Our partner organization in Alabama even viewed the survey results as potentially valuable data to help them garner future funding. “Research fatigue” and the prior experience of researchers as being exploitative (Clark 2008; Damon et al. 2017; Ferreira et al. 2015), was a huge concern of ours going into the project, so we were also surprised to hear otherwise from our partners. Particularly in Lafourche and Plaquemines, we were told that residents there feel forgotten and may view a research survey positively, as a way to spread the word about the difficulties still being experienced by a community even years after a disaster event. Prior studies have suggested that research participants appreciate the opportunity to tell their stories (Clark 2010). The enthusiasm for the research project that our partners conveyed may be a testament to the huge impacts the three communities have felt from the repeated disasters of the past 15 years and particularly so from the Deepwater Horizon oil spill, which was the main focus of our survey. This input from our partners drove home the point to us that distressed, disaster-prone communities may be hungry for information and that ethically done research in these communities

may be welcome and perceived as useful, no matter where the project may fall on the engagement continuum and no matter how much previous research may have been done in the community. **Recommendation: Researchers studying disaster resilience should involve the local community in their projects to the greatest extent possible, but they should also recognize the worth of research along the entire continuum of participation. Distressed or disaster-vulnerable communities may see research as needed and valuable, especially when impacts are felt for years after a disaster has occurred, even if the project is not fully participatory in every aspect.**

It is important to match the project's methods, recruitment, instruments, language, vocabulary, and data collection to the specific characteristics of the communities where the research is being carried out. The staff at our partner organization in Alabama, where a large number of the survey participants spoke Vietnamese, made us aware of issues with both the vocabulary used in the survey and the language translation. Jargon, language, and vocabulary often present a major barrier between community members and academic researchers, making dialogue and exchange difficult or uncomfortable for local residents (Naquin et al. 2015). Literature on best practices in community engagement has targeted language as a particularly key facet of the work (Fassinger and Morrow 2013), and the input we received from our Alabama partners indicates the importance of pitching the instrument wording correctly to residents. Our Alabama partners also advised us that using focus groups instead of or in addition to a survey would have promoted a more relaxed atmosphere for eliciting information from residents, and may even have given us more truthful answers. The low response rates to our mail-based probability participant recruitment, and the need to supplement with word-of-mouth recruitment at two sites in order to meet participant numbers goals, reveals the difficulty of recruitment in rural, post-disaster communities, and the need to work closely with local leaders and organizations. The feedback from our partners and our participant recruitment experiences highlight the importance—and the difficulty—of carefully balancing preconceived research goals (or the desire to do “scientifically rigorous” research) with the most respectful or culturally appropriate ways to interact with community members (Castleden et al. 2012). Initial plans for recruitment or research strategies may need to be adjusted based on the realities of the communities or input from community partners. In post-disaster communities that may have interacted a lot with government agencies and scholars—who often use a great deal of jargon or may have previously used research strategies inappropriate to the community—language and methodology is especially important (Peterson 2015). **Recommendation: Consult with community partners early in project development to get feedback on the research methodologies and participant recruitment efforts planned, to vet the wording of surveys and interview questions, and to discuss any other language issues or possible cultural dissonance.**

The nuances of culture and communication norms are vital to the way researchers interact with community members, especially in communities that have experienced repeated disasters. We received valuable input from our partners about the cultural values of the communities, and the importance of paying attention to these when interacting with residents. For example, the comments from our Lafourche partners about the delicate balance between professionalism and a relaxed, informal demeanor—and observations about “book smart” versus “hand smart and work smart” is advice only a local resident could supply. In the end, the interactions between our researchers and survey participants were largely positive, and we received very favorable reports from partner organization staff about working with our university-based team. Our research team was enthusiastic about meeting residents and interested in their stories and traditions. But in retrospect, our research and our interactions with residents would have benefitted from giving our team more detailed information from the community perspective during training. The growing literature on methods such as “critical cultural competence and anti-oppressive practice” (Danso 2015) gives valuable guidance about putting these concepts to use. This issue likely holds particular importance in communities where multiple disasters have struck, causing influxes of outsiders during disaster response and rebuilding. After disasters caused by natural hazards and the Deepwater Horizon oil spill, Gulf

Coast residents have experienced consultants, volunteers, response workers, national NGO staff, and developers coming to the region from elsewhere, sometimes with unclear motivations and without knowledge of the local context. These realities make it even more incumbent on researchers in disaster-prone areas to be well versed in the social, economic, and cultural realities and traditions of the communities where we work, even if our university or institution is based near the area of study (Laska and Peterson 2011). **Recommendation: Before beginning data collection, elicit details from community partners about cultural norms and how researchers should interact with local residents, and incorporate this community perspective and advice into the training for research personnel.**

**Community partners have valuable perspectives about how best to communicate research results in disaster-prone communities.** Disseminating the results of research within partner communities is a cornerstone of community-based research methods (Quinn and Kiernan 2017). Halseth et al. (2016) advise working closely with community partners to identify the best ways to “mobilize knowledge,” and point out that a diverse array of dissemination and communication strategies may be needed, tailored towards different communities and different audiences within those communities. The special circumstances of post-disaster Gulf Coast communities are noteworthy in this context, as residents often have “meeting fatigue” or information overload from repeated forums on coastal restoration and disaster response and recovery (National Research Council 2015). We knew that online dissemination methods would be inadvisable in the areas we worked for this project, due to internet access issues. But we were surprised to learn from our partners that the local newspaper is the best way to reach the populations in Lafourche and Plaquemines. Transportation constraints, multiple jobs, busy family schedules, and the plethora of community meetings already being held in these areas about coastal issues may deter residents from attending community forums. We were also advised about the importance of reaching local government officials through other channels, including presenting at parish government meetings, as well as the great value of disseminating our research results to our community partners themselves for grant writing and other development needs. **Recommendation: Consult community partners about locally appropriate strategies for disseminating research results, be open to the necessity of a range of communication methods fitted to different populations, and share research results with community partners to aid them in their own work.**

**The value of self-reflection and discourse with partners at all stages of a community-based research project cannot be overstated.** All of the exchange we did throughout the process of preparing this publication—with our partners and with each other—bolstered our initial rationale for this endeavor: that self-reflection, self-evaluation, and honest dialogue with our community partners is essential for ethical community-engaged research and foundational for the necessary constant improvement of our methods. Feminist methodologies for community-based and participatory action research are extremely instructive in this process, stressing “reflexivity,” or thoughtful consideration of the societal power relationships between researchers, partners, and participants (Ponic et al. 2010). This is especially crucial when engaging in research and partnerships with populations with socioeconomic challenges and histories of repeated disasters. Creese and Frisby (2011) give an excellent summary of this approach:

“...the promise [of feminist community research] lies in the ongoing and continual learning from previous studies about what works better in what contexts, including what compromises might be made (and what cannot be compromised), with what consequences and for whom, in order to attain more equal forms of reflexive community collaboration. More collaborative and equitable conditions of knowledge creation...have the potential to...contribute to social change by revealing the consequences of inequality and exploring alternative approaches for ameliorating or at least lessening them...The commitment to detailing failings as well as accomplishments provide[s] instructive examples for other researchers.” (232–233)

We see great power in applying this approach to studying resilience with environmentally vulnerable, disaster-distressed communities, and have attempted to emulate at least some of these practices here. **Recommendation: When working with communities that have experienced disaster and trauma, incorporating theories and practices that center critical reflection and consider power dynamics (such as feminist participatory methodologies) helps foster ethical, socially just resilience research—empowering researchers and community partners in the process.**

#### 4. Conclusions

The significant increase in disasters worldwide—and the understanding of disasters as a social force—will only grow interest in results of community-level disaster resilience research. Over the course of a three-year relationship, we find that researcher-community partnerships that seek and value community input and incorporate reflection and dialogue between partners lead to successful and ethical research practices with vulnerable populations following a disaster. Based on feedback and insights from our community collaborators, we have generated a set of recommendations aimed at making disaster research more valuable to the communities where research takes place, and to improving the relationships between disaster researchers and community partners. As an interdisciplinary research team based in a region impacted by multiple disasters, building trust and maintaining relationships with community organizations serves as a key element of sustainable research practice. We have hope that community partner organizations' investment in our work will lead to the benefits that they anticipate and sustain long-term relationships with communities impacted by disaster. The recommendations we make here seek to foster equity in disaster-related research and prioritize the community's voice. Incorporating community-based participatory research methodologies can sustain community collaboration and sow mutual expectations for best practices for ethical post-disaster research.

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#### Appendix A

Below is the list of guiding questions, all of which were asked of each interview subject. Additional questions and topics came up during each interview, as appropriate to the discussion.

Please characterize your role in your organization.

What has been your general involvement/capacity/experience with the project?

What are your overall impressions of the project, team, and the work that has been done?

Anything about your action with the project that could have been done differently? Anything less than ideal/need improving/need changing?

What lessons learned would you like future collaborators to bring to the table?

We are planning to present data we collected from our in-person survey to your community. What is the best way to share the data with the community? What times of year? What days of the week?

Why did you say yes to the collaboration?

Who made that decision?

What challenges were considered?

What did your organization gain through this collaboration?

How was this experience for you?

What did your community or clients get from the collaboration?

What challenges did you encounter?

(Elicit information about challenges preparing to host the survey, during the research, or afterwards.)

Do you have any memorable stories or observations or interactions with researchers that you'd like to share?

What changes could researchers make going forward?

What should researchers coming here know about your community and your work?

What do you hope that researchers who worked here know now?

What questions about the Deepwater Horizon Oil Spill do you have?

What questions persist for your community?

In your opinion, what would be the best way to share information gained through this research?

Is there anything else you'd like to share?

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