

An Overview of Sociological Contributions to the OK EPSCoR Project

Dr. Duane A. Gill

Department of Sociology

Center for the Study of Disasters and Extreme Events

Oklahoma State University

April 24, 2018



Overview: Community Resilience

- How are local communities in the EPSCoR watershed areas addressing potential increased frequency and intensity of natural hazards?
- What are the views and perspectives of individuals/organizations that have a role to play in emergency management?
- What decision support mechanisms can be developed to increase resilience to hazards?

Personnel

- Two PI's, two post-docs, seven graduate research assistants, and three undergraduate research assistants
- Currently:
 - Post Doc—Benjamin J. Gray
 - GRAs—Adam Straub, Austin Jobes, Ashley Beaird
- Degrees Completed:
 - PhD—Rachel Gurney
 - MS—Daisha Delano, Bridget Kenner, Grant Samms

Data Collected

- Interviews conducted with 206 individuals
 - Cimarron – 37 people interviewed (Stillwater)
 - Kiamichi – 20 people interviewed (Fort Cobb)
 - North Canadian – 94 people (OKC) and 31 (Woodward)
 - Washita – 24 people interviewed
- Most interviews were conducted one-on-one, but a few were group interviews

Interview Process

- Two interview guides
 - Emergency department/organization personnel
 - Landowners
- Semi-structured interviews enable researchers to gather salient concepts as defined by the interviewee
 - Provide insights into perspectives and experiences of people
 - Relatively flexible—allows individuals to elaborate on themes they think are important in their own terms
 - Comparable qualitative data

Interview Topics

- Plans for & experiences with extreme natural hazard events
 - drought, wildfires, tornadoes, hail, winter storms, flooding, earthquakes
- Focus on drought & water scarcity
- Frequency & intensity of hazard events
- Partnerships with other organizations
- Resources & barriers to preparedness & response
- Resiliency

Outcomes

- Papers and Decision Support Tools utilize both interview and survey data along with interdisciplinary and intercollegiate collaboration.
- Papers
- Thesis
- Community Outreach
- Decision Support

Completed Papers

Gray, Benjamin J. (2018). Connecting earth and sky: Persuading climate skeptics through analogy. *The Extractive Industries and Society*.

- Many Oklahomans agree that the disposal of produced water in deep injection wells contributes to an increased rate of seismicity, yet a portion of this same population disagrees that greenhouse gas emissions contribute to climate change.
- This article uses a cultural model framework to suggest that scientific communication structured around an analogy drawn between causes of induced seismicity and climate change may be an effective way to invite this population to reconsider beliefs about climate change.
- Although this is a preliminary framework for communicating with a specific population, a similar approach may also prove useful in communicating with other climate change skeptics.

Current Papers

“I think we are in a cycle”: Using analogies and cultural models to understand climate change skepticism

- Contribution to qualitative literature on climate change skepticism by drawing on the analogies used by skeptics when discussing “natural cycles” of weather events.
- Analogic thinking points to cultural models used by skeptics as a heuristic framework to interpret scientific information.
- Political and demographic issues seem less important from this lens.
- Submitted to Human Organization

Current Papers

Elite cues in climate change and induced seismicity in Oklahoma

- When forming opinions the public often takes cues from high status individuals they believe to be ideologically similar to themselves.
- Elite cues theory is supported by data from the national climate change survey.
- Logistic regression models were applied to Oklahomans' opinions about climate change & earthquakes—evidence of elite cues in both issues.
- However, elites cues were weaker for induced seismicity—perhaps because earthquakes are “psychologically close”, i.e. they are more difficult to dismiss.

Current Papers

The importance of a household emergency plan on other aspects of preparedness

- People move through several cognitive phases before taking preparedness action:
 - attention, comprehension, acceptance retention, & action.
- EPSCoR survey data demonstrates those who make a household emergency plan are more likely to take other preparedness measures.
- This implies that the act of developing a plan results in tangible preparedness measures as people move through cognitive phases.

Current Papers

Who defines how the waters flow?

- Sardis Lake in southeast OK was the center of a legal dispute between Chickasaw and Choctaw tribes & OKC municipality.
- The tribes seem satisfied with an agreement that allows water to be used by the municipal system.
- Some southeast OK residents were not included in the negotiations & are worried about the possible effects on the economy & ecology.
- Tensions between activists & scientists highlight the social nature of water.

Current Papers

A cultural model of resilience

- Oklahomans pride themselves on their resiliency to extreme weather events.
- Following an approach by Lakoff & Kövecses to model idioms, responses to “How do you define resilience?” will be used to create a cultural model.
- The resulting cultural model will be compared to extant disaster literature covering resilience.
- This information could potentially help emergency managers in response, recovery, and communication efforts.

Current Papers

Emergency Preparedness in Rural Communities

- Viewing vulnerability & resilience from a qualitative lens contributes to the nuanced understanding of historical, physical, & social dynamics in rural communities.
- Social capital of rural communities is investigated by focusing on how rurality promotes both vulnerability & resilience.
- It is argued that the rural/urban divide weakens specific forms of social capital while strengthening others.
- It is important for emergency managers & researchers to consider relational dimensions of vulnerability and resilience.

Thesis

The Social Capital of Prescribed Burn Associations

- PBAs are composed of local landowners who seek to use the land management tool of fire to help restore the natural ecology & provide financial return.
- Members are concerned about the sustainability of PBAs due to aging membership and cooperative relations between local fire departments.
- Preliminary interview data collected in 4 of the 5 watersheds depicts positive rural community outcomes with increased resilience to climate change.
- There is future potential for PBAs to assist in wildland fire trainings for local fire departments & bolster public wildfire preparedness.

Community Outreach

Master small farmer and minority advisor pilot program

- Jack Friedman, Benjamin J. Gray, Michael Stanton
- Project is geared toward assisting minority and small farm operators who are marginalized and have difficulty accessing Oklahoma Cooperative Extension Services, specifically in Caddo County.
- Focus groups & interviews will be used to gather further information.

Decision Support Tools

- Template of a decision support document for emergency preparedness that is customizable for each watershed.
- Distribution through Peter Kedron's social vulnerability website and in person through the contacts made during the EPSCoR project.
- Further partnership with Oklahoma Department of Emergency Management.

Conclusions

It is not the sole job of sociologists to be the primary means of public connection