Expanding Social Science Through Disaster Studies

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Objectives. This article provides an overview of how the interdisciplinary field of disaster studies contributes to the social sciences. *Methods.* The following themes are explored in relation to the articles contained in the special issue: disasters are social and political phenomena that generate policy change, disasters reflect and affect democratic governance, and disasters reveal shared experience and collective identity. *Results.* Disaster studies bridge the social sciences theoretically and methodologically. Given the scope of disaster impacts—across social, political, economic, ecological, and infrastructure spheres—and the policy response they garner involving public, private, and civic actors, they offer a lens by which to see society and politics in a way that no other critical events can. *Conclusion.* Disaster studies offer important applications of social science theories and concepts that expand the field, broaden our reach as social scientists, and deepen our understanding of fundamental social processes and behaviors in meaningful ways.

According to the National Oceanic and Atmospheric Administration (NOAA, 2018), disasters in the United States with price tags over $1 billion have risen from two per year in 1980 to more than 10 per year in 2017. For the more than 200 events NOAA has tracked and documented, the United States has sustained over $1.5 trillion in damages and costs. Increases in the frequency of extreme-weather events have combined with 24-hour media cycles to bring disasters to the forefront of domestic and global policy agendas. Amidst this attention, social scientists explore disaster-prompted research puzzles by engaging in the interdisciplinary field of disaster studies.

Natural and engineering sciences have a part to play in disaster studies, though a disaster is more than physical characteristics of a natural or technical hazard event. A disaster is spurred by a critical hazard event, but it is characterized by the social disruption it causes (Quarantelli, Lagadec, and Boin, 2007; Reinhardt 2015b). Disasters are socially constructed, occurring only when hazards intersect with social vulnerabilities, political institutions, and individual perceptions (Paton, 2006). Social sciences, fundamentally concerned with understanding motives and reasons for action (Winch, 2015), are therefore ideal for studying the social, economic, and political causes and consequences of disasters.

With this special issue, we make the case that disaster studies is an interdisciplinary field not only relevant to, but important for the development of, the social sciences. The articles herein demonstrate how the study of disasters helps us apply core social science theories to expand our understanding of fundamental human behaviors, highlighting disasters as human-centric phenomena that permeate cross-disciplinary boundaries. Both separately and collectively, we present a picture of disasters as social and political phenomena

that generate policy change, reflect and affect democratic governance, and reveal shared experience and collective identity.

Disasters Are Social and, Therefore, Political

As Plein (2019) notes: "The essence of social science is to discover how human and social agency responds to and is applied to new circumstance, challenge, and change." Disasters give us glimpses into moments of challenge and change that create precisely the new circumstances social scientists study. They are societal disruptions comprising not a singular event, but many such moments in a long-term cycle (Quarantelli, Lagadec, and Boin, 2007). This cycle is often characterized in four phases: (1) *mitigation* to reduce socioeconomic vulnerabilities and risk, including activities ranging from land-use planning to construction of levees and dams; (2) *preparedness* to enhance emergency response capabilities, such as warning systems, community education campaigns, and communication plans; (3) *response* to take action immediately before, during, and after a disaster event to save lives, clear debris, and minimize damage; and (4) *recovery* to restore vital support systems in the short term, such as hospitals, and to rebuild properties as well as social and economic functioning in the long term (Mileti, 1999; Tierney, Lindell, and Perry, 2001; Sylves, 2008). These not only entail management functions and decisions, but inherently involve social choice and political action.

Because disasters force broad cross-sections of citizens "into direct contact with and reliance upon their government" (Darr, Cate, and Moak, 2019), they offer social scientists the opportunity to pinpoint citizen–government interactions and investigate their consequences. Decisions about how to vote (Healy and Malhotra, 2009), how much and to whom to donate (Eckel, Grossman, and Milano, 2007), and where to live (Reinhardt, 2015b) have all been found to depend in part on disaster experiences and observations.

The articles contained in this issue extend this previous work by investigating how disasters both test the performance of political institutions and public officials, and amplify socioeconomic drivers of social and political behavior. Government, across local, state, and federal levels, has a central role in disaster preparation, relief, recovery, and rebuilding. Disasters, therefore, become pivotal events in the lives of citizens, shaping public expectations, evaluations, and attitudes toward government (Darr, Cate, and Moak, 2019). Contributing scholars use disasters as a lens through which to examine policy windows (Plein, 2019; Pope and Leland, 2019), legislative behavior (Yeo and Knox, 2019), and the relationship between citizens and government. Studies in this issue examine public praise and blame for government performance (Darr, Cate, and Moak, 2019; Canales, Pope, and Maestas, 2019), trust in government and public officials (Reinhardt, 2019), information as a public good (Wehde, Pudlo, and Robinson, 2019), and factors mediating partisan polarization (Ross, Rouse, and Mobley, 2019). Collectively, this issue demonstrates the utility of examining disasters to deepen and broaden our understanding of social and political behaviors and democratic governance.

Disasters Call for Policy Change

From Downs's (1972) issue life cycles to Kingdon's (1984) policy windows, from Baumgartner and Jones's (Baumgartner and Jones, 2010) punctuated equilibria to Birkland's (1997) focusing events, scholars have spent decades investigating moments of policy change.

Central to each of these approaches is the definition of an issue as sufficiently important to warrant policy change. For an issue to emerge on the policy agenda, it must be salient and attention-grabbing to the public.

As Yeo and Knox point out in this issue, disasters rank the highest of the various issues grabbing the U.S. public's attention at any given time (Pew Research Center, 2010; Robinson, 2007). Yet not all disasters are equal in the public's eye, and they often compete for attention with other issues. Examining public attention to multiple disaster events in comparison to social and political events, the authors find that public attention garnered by a recent flood in the state of Louisiana matured the fastest but was limited in its scope and durability. Limited public attention has negative consequences for governance as heightened public attention can—and often—prompt external actors, including the federal government and private organizations, to provide relief funding and other donations that enhance local capacities. Previous work has found substantive policy learning and change is unlikely to result absent sufficient local capacity (Ross, 2013).

"For those who study politics and policy, an essential question is whether the severity of a disaster has the potential to disrupt so that real, substantive policy response might follow" (Plein, 2019). Plein articulates a framework for climate change adaptation built on principles of social justice and equity. Detailing post-flooding recovery and rebuilding in West Virginia, the author demonstrates that disasters may open the window for policy change but are not sufficient on their own to drive meaningful action. Often, the redesign of policy and institutions is met with a lack of political will and an institutional tendency to return to the status quo. Acknowledgment of scientific knowledge and commitment to democratic principles is needed to develop the institutions that promote effective and equitable adaptation strategies.

Disasters also open opportunities for political exploitation. Pope and Leland (2019) demonstrate that disasters do not merely create the environment in which the public calls for government action; they also open opportunities that politicians may leverage, under favorable political conditions, to further their political utility and capital. The authors investigate how politicians draw down state rainy day funds, intended to stabilize revenue fluctuations, following a disaster event. Political factors, including electoral incentives and partisan alignment between the legislative and executive branches, condition how politicians behave in this post-disaster context. This study expands our understanding of utility maximization by politicians, underscoring that social disruptions are used for electoral gain under ripe political conditions.

Disasters Reflect and Affect Democratic Governance

An axiom in emergency management maintains that "all disasters are local" (Yeo and Knox, 2019). While many policies and political events may seem distant to the average citizen, disasters do not. Disasters condition behavior and perceptions, including the way we evaluate government and make decisions during future disasters. As past work by Atkeson and Maestas (2012) shows, disasters create a unique media and emotional context that changes the way people process the information they receive about catastrophes and their aftermath. This context, in turn, alters the way they attribute blame, evaluate government, and support policy proposals that emerge after a catastrophe. Previous work has found this to be true both for those who live through disasters, and for those who observe disasters from afar (Reinhardt, 2015a, 2017).

In this issue, Reinhardt (2019) finds that disaster experience (or lack thereof) conditions political trust in different ways for different subgroups of the population. She finds that for those with first-hand experience, education attenuates differences in political trust between race and ethnic groups, while for those with only second-hand information about a disaster, education exacerbates them. As political trust reflects perceived competence and credibility, which in turn affect the ability to govern, Reinhardt's findings suggest that disaster performance today will affect one's ability to govern tomorrow.

Darr, Cate, and Moak (2019) explore this idea more deeply, comparing public evaluations of government among those who have experienced a single disaster event and among those who have experienced repeated disasters. In recent years, serial disasters have developed across the Gulf Coast region with repeated floods and in the western United States with repeated wildfires. The authors investigate how prior experience with government in a past disaster event sets up expectations that endure for years. Their results suggest that disaster experience can lead to political turnover and enduring shifts in political opinions.

Canales, Pope, and Maestas (2019) point out that achieving accurate attribution of responsibility for government performance is a challenge that is necessary for democratic accountability. Disasters are a particularly useful lens by which to examine this process because the interaction of the public and government can be tracked from an initial shock. Given the rise of social media as a medium for interaction between the public, private, and civic spheres and the timeliness and two-way communication that social media affords, the authors examine Twitter communication during Hurricane Sandy. They find evidence that the public is not able to engage in sophisticated search and use of information; as a result, accurate attribution of responsibility is skewed, with the federal government receiving most of the blame during a disaster while state and local entities maintain responsibility. This has implications for understanding the role of information in democratic governance.

Further examining the role of information in democracy, Wehde, Pudlo, and Robinson, (2019) consider how information, as a public good, is used during disasters. They examine a specific attribute of disaster information and communication—geographic location. They find that individuals away from home—those at work—are less likely to use traditional forms of media, relying instead on person-to-person communication and social media. Their study has implications for the efficacy of government communication; specifically, their results inform the way we view how governance works, as attribution of responsibility, trust in government, and expectations of government may be influenced by communication patterns during disasters.

Disasters Reveal Shared Experience and Collective Identity

Social scientists recognize that social identities are not singular; rather, there are complexities and intersections in the experiences that individuals have and the attachments to groups they prescribe that affect how they think and behave (e.g., Miller, Brewer, and Arbuckle, 2009). Of particular importance to politics, political affiliations are increasingly recognized as social identities (Huddy, Mason, and Aarøe, 2010; Mason, 2015). Building on the theoretical foundation of social identity intersectionality, studies in this issue demonstrate that disasters condition the way social identities are translated to attitudes and beliefs.

Reinhardt (2019) examines the intersection of race/ethnicity, class, and gender for groups with varying disaster experience, and finds that the disaster experience shapes how this constellation of identities determines political trust. Though previous work on political

trust yields no consensus on a gender-based effect, the author shows a clear effect of gender according to race, finding that black women have the lowest political trust, followed by black men, white men, and white women. She also finds that education changes the effect of the disaster experience on political trust, but does so differently for different subgroups. Her work, thus, uses the disaster context to demonstrate the utility of examining the intersection of identities when studying social attitudes such as trust.

Pivoting then to examine how disasters reflect social and political divisions, Ross, Rouse, and Mobley (2019) explore climate change attitudes. The authors revisit the interaction of partisanship with education (e.g., Dunlap, McCright, and Yarosh, 2016), asserting that the Millennial Generation identity (Rouse and Ross, 2018) shapes the relationship between the two thereby changing how party sorting manifests. Climate change can be understood both as a slow onset disaster and as tied to more frequently occurring natural hazards such as tropical cyclones; it is a particularly important issue for young adults (Funk and Heffron, 2018). In an examination of public opinion data, the authors find the intersection of political and generational identities is associated with different policy attitudes among young adults and older adults. While older adults with higher education tend to be the furthest apart in their beliefs about climate change, young adults with more education demonstrate a convergence of beliefs despite identity differences. Exploring polarization among the American electorate within a highly salient disaster issue—climate change—reveals that multiple identities converge to condition political beliefs and attitudes.

Conclusion

With climate change increasing the incidence and intensity of extreme-weather events, we can expect disasters to increase as well (Cai et al., 2014). These changes in the natural science world demand a better understanding of the social science processes and mechanisms underpinning disaster behavior and reactions. Changes in natural and social systems are highly coupled and are only growing more interdependent (Berkes, Folke, and Colding, 2000; Walker and Salt, 2012). For these reasons alone, disaster studies are a worthy endeavor.

Though important to study on their own merit, disasters are more than just a salient topic—they are a social phenomenon so complex as to require multidisciplinary examination, and so multifaceted as to enable the study of myriad core social science concepts. This special issue demonstrates how disaster studies bridge the social sciences, both theoretically and methodologically. Studies contained within the issue span theories of governance, party sorting, political trust, communication, distributive justice, and rational choice institutionalism; the methods employed include regression analyses, case studies, and social media analyses. Disasters highlight vulnerabilities and compel capacities, demonstrating the social, political, and institutional arrangements people and governments create. Therefore, they are an excellent and unique context with which to examine fundamental social science concepts such as power, social capital, identity, justice, inclusivity, sustainability, and trust.

Disasters are important to study beyond what they can tell us about critical events and situations. As the studies in this special issue underscore, they serve as important moments that illuminate larger social science questions and processes. Given the scope of disaster impacts—across social, political, economic, ecological, and infrastructure spheres—and the policy response they garner involving public, private, and civic actors, they offer a lens by which to see society and politics in a way that no other critical events can focus. Disasters affect people across all demographics, but in different ways according to the

varying identities individuals espouse. Disasters force individuals and politicians to make choices under uncertainty, and those choices are influenced by political and economic legacies, utility maximization, and government capacities. Disasters also garner and focus attention from across the country and around the world. The public updates its preferences, beliefs, and perceptions accordingly but does so in different ways depending on where they live and what their main interests are. So disasters are not just about death or destruction; rather, they are a moment when social scientists can isolate cross-sections of society and mechanisms of human behavior we cannot otherwise specify. Disaster studies, therefore, should be recognized as a valuable part of the social sciences whose contributions expand our collective understanding in meaningful ways.

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