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Disaster Mythology and Availability Cascades

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Abstract

Sociological research conducted in the aftermath of natural disasters has uncovered a number of "disaster myths" – widely shared misconceptions about typical post-disaster human behavior. This paper discusses the possibility that perpetuation of disaster mythology reflects an "availability cascade," defined in prior scholarship as a "self-reinforcing process of collective belief formation by which an expressed perception triggers a chain reaction that gives the perception increasing plausibility through its rising availability in public discourse." (Kuran and Sunstein 1999). Framing the spread of disaster mythology as an availability cascade suggests that certain tools may be useful in halting the myths' continued perpetuation. These tools include changing the legal and social incentives of so-called "availability entrepreneurs" – those principally responsible for beginning and perpetuating the cascade, as well as insulating decision-makers from political pressures generated by the availability cascade. This paper evaluates the potential effectiveness of these and other solutions for countering disaster mythology.

Key words

Law; Sociology; Disaster Law; Disasters; Disaster Myths; Availability Cascades; United States

Resumen

Las investigaciones sociológicas realizadas tras los desastres naturales han hecho evidentes una serie de "mitos del desastre", conceptos erróneos ampliamente compartidos sobre el comportamiento humano típico tras un desastre. Este artículo analiza la posibilidad de que la perpetuación de los mitos del desastre refleje una "cascada de disponibilidad", definida en estudios anteriores como un "proceso de

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auto-refuerzo de la formación de una creencia colectiva, a través del que una percepción expresada produce una reacción en cadena que hace que la percepción sea cada vez más verosímil, a través de una mayor presencia en el discurso público" (Kuran y Sunstein 1999). Enmarcar la propagación de los mitos del desastre como una cascada de disponibilidad sugiere que ciertas herramientas pueden ser útiles para parar la continua perpetuación de los mitos. Estas herramientas incluyen el cambio de los incentivos legales y sociales de los llamados "emprendedores de la disponibilidad", los principales responsables del inicio y la perpetuación de la cascada, además del aislamiento de quienes toman las decisiones de las presiones políticas generadas por la cascada de disponibilidad. Este artículo evalúa la efectividad potencial de estas y otras soluciones para contrarrestar los mitos del desastre.

Palabras clave

Derecho; sociología; derecho de desastres; desastres; mitos del desastre; cascadas de disponibilidad; Estados Unidos

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1. Introduction

In the aftermath of Hurricane Katrina, both public officials and the mainstream media painted a dramatic and deeply disturbing picture of violence and looting in devastated New Orleans. The New Orleans Police Superintendent asserted that "little babies [were] getting raped" in the Superdome, a shelter where hurricane survivors took refuge (Oprah 2005). As a guest on the Oprah Winfrey Show, New Orleans Mayor Ray Nagin reported that Katrina's survivors were sinking into an "almost animalistic state" after days of "watching hooligans killing people, raping people" (Thevenot 2006, p. 34).

Similar accounts dominated newspaper headlines and TV coverage of Katrina for days. Post-Katrina New Orleans was consistently depicted both as a city descending into anarchy and violence, and as a war-zone in which Katrina's victims attacked those who had come to their aid. A *New York Times* editorial reported that New Orleans was "a snake pit of anarchy, death, looting, raping, marauding thugs, suffering innocents, a shattered infrastructure, a gutted police force, insufficient troop levels and criminally negligent government planning" (Dowd 2005). The *Financial Times* of London asserted that, at the Convention Center, another shelter of last resort for New Orleans' besieged citizens, "girls and boys were raped in the dark and had their throats cut and bodies were stuffed in the kitchens while looters and madmen exchanged fire with weapons they had looted" (Dinmore 2005). The lead news story in the *Los Angeles Times* described National Guard troops taking "positions on rooftops, scanning for snipers and armed mobs as seething crowds of refugees milled below, desperate to flee"(Barry *et al.* 2005). TV coverage likewise asserted that looting had overtaken New Orleans, playing clips of Katrina survivors taking goods from deserted stores in a seemingly never-ending 24-hour loop.

These unrelenting tales of anarchy, violence, and chaos in post-Katrina New Orleans proved to be, at best, greatly exaggerated, and, at worst, utterly false. Nearly a month after Katrina struck New Orleans, major news outlets retracted many of their previous reports of widespread violence and crime in Katrina's wake (Dwyer and Drew 2005, Rosenblatt and Rainey 2005, Thevenot and Russell 2005). Unfortunately, the early reports have proved resilient, and the truth has never fully overtaken the myth.

2. Disaster Mythology and Its Consequences

The myths about post-disaster human behavior that took hold in the aftermath of Katrina were not unique to that catastrophe. Disaster sociologists long ago identified several important public misconceptions about typical human behavior in disaster's aftermath (Quarantelli and Dynes 1972). These misconceptions—also called "disaster myths"—include (1) the myth that widespread antisocial behavior, such as violence and looting, is common after disasters; (2) the myth that most disaster survivors will panic and engage in irrational flight behavior; and (3) the myth that disaster survivors commonly suffer a shock reaction that paralyzes them and interferes with their ability to respond to the disaster and care for themselves and others (Quarantelli and Dynes 1972).

Understanding how these myths gain traction during disasters is important because the existence of these misconceptions distorts our legal and policy framework for disaster response and recovery (Sun 2011). The myth of widespread antisocial activity, for example, has resulted in a U.S. legal system of disaster response that overemphasizes security risks at the expense of humanitarian efforts to rescue and care for survivors (Sun 2011). First, exaggerated reports of looting and violence post-disaster make the President more likely to deploy federal troops in a law enforcement, rather than humanitarian, capacity and less likely to deploy troops at all if the President decides for legal or political reasons not to invest federal troops with law enforcement authority (Sun 2011). Second, such exaggerated reports also tend to delay aid to survivors (Sun 2011). After Katrina, Mayor Nagin reacted to

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exaggerated reports of violence and looting by diverting 1,500 New Orleans police officers from search and rescue missions to anti-looting patrol (NBC News 2005). Officials also delayed delivery of desperately needed food, water, and sanitation supplies to shelters of last resort until massive military escorts could be assembled to accompany the deliveries and respond to the looting and gangs that the shipments were expected to encounter (Reckdahl 2006). Third, public officials may respond to inflated fears of looting and violence by implementing restrictions on freedom and freedom of movement—such as roadblocks, curfews, and vague declarations of "martial law"—that may risk excessive use of force by police, interfere with response efforts, delay evacuated residents' return to their homes, and violate basic rights (Sun 2011). Private citizens may likewise react to the myth by engaging in vigilante behavior to protect themselves and their property from perceived, but largely imaginary, threats (Sun 2011). Fourth, the prevalence of the disaster myth of looting and violence convinces us to squander post-disaster political capital on the passage of unnecessary looting laws, often at the expense of passing hazard mitigation measures that might protect lives and property during the next hazard event (Sun 2011).

In addition to these concrete, detrimental effects on our legal and policy framework for disaster response, exaggerated reports of widespread looting and violence can also stigmatize disaster victims (Garfield 2007). That stigma can make other communities less receptive to taking in disaster survivors, in both the short and long term. In the short term, communities may balk at setting up evacuation centers and shelters for displaced survivors. In the long term, those survivors who choose to permanently relocate to another community may face discrimination in employment and other opportunities.

Katrina survivors from New Orleans faced this kind of stigma in cities such as Houston, Texas, where they took refuge. Many New Orleans residents relocated, at least temporarily, to Houston. During that time, it was widely reported in both the local and national news that Katrina survivors were responsible for a wave of crime in the Houston area (Bustillo 2006). Studies later disproved the existence of a "Katrina crime wave," ushered in by evacuees from New Orleans, but the stigma remains (Pinkerton 2010). Of course, Katrina evacuees were stereotyped, in part, because of the high crime rates that plagued New Orleans prior to the storm, (Gelinas 2006), but the reports of widespread looting and violence in Katrina's aftermath contributed to the public perception that Katrina evacuees were criminals (Vergano 2010). Moreover, reports suggesting that disaster evacuees spawned a crime wave are likewise "typical of 'disaster myths' seen after catastrophes" (Vergano 2010 cited Trainor). The stigmatization of Katrina survivors as violent criminals has also resulted in employment and housing discrimination against survivors (Reckdahl 2006).

3. Disaster Myth Perpetuation as an Availability Cascade

These detrimental consequences of the disaster mythology of widespread violence and looting demonstrate the necessity of finding political and legal tools to counter the myth's perpetuation and its effects on our framework for disaster response and recovery (Sun 2011). Considering the perpetuation of disaster mythology as an "availability cascade" may be helpful in understanding the myth's spread and in generating possible options for countering the myth and its consequences.

Timur Kuran and Cass Sunstein (1999) have defined an "availability cascade" as "a self-reinforcing process of collective belief formation by which an expressed perception triggers a chain reaction that gives the perception increasing plausibility through its rising availability in public discourse." More simply, an availability cascade results from the "interaction of the 'availability heuristic'—a mental shortcut by which an individual judges the probability of an event by his or her ability to conjure up examples of that event—and the social mechanisms through

which risk perceptions are propagated" (Kuran and Sunstein 1999 quoted Sun 2011).

The mental "availability" of violence and looting as disaster risks is amplified in the United States by a popular culture of disaster movies and by media reporting of disasters, both of which—not surprisingly—focus on such antisocial behavior in disasters' aftermath:

> [T]he calm, helping behaviors typically exhibited by disaster survivors are hardly the fodder of either attention-grabbing headlines or fast-paced entertainment. Those portrayals of disaster increase the mental "availability" of violence and looting as disaster risks by proliferating examples of disaster-related violence and looting (even if those examples never, in fact, occurred (Kuran and Sunstein 1999 cited Sun 2011).

A disaster risk that has a human component—like looting and violence—may also be more "available" mentally than the underlying risks posed by the natural hazard event itself because manmade risks tend to be more salient in people's minds than those that appear to be naturally created (Kuran and Sunstein 1999, Sjoberg 1999). Of course, Kuran and Sunstein are likely to view this tendency to focus on and react more strongly to manmade risks than "natural risks" as a cognitive error, whereas others like Dan Kahan (2008) might view this tendency as a "culturally mediated value judgment." Regardless of how one characterizes this tendency, the consequence is that at least some members of the public may be predisposed to believe that violence and looting are common reactions to disasters because of the salience of those manmade risks (Sun 2011).

Sunstein and Kuran's work on availability cascades focuses on the role of two (often interrelated) social mechanisms that produce and amplify availability cascades: "informational cascades" and "reputational cascades" (Kuran and Sunstein 1999). An informational cascade—or "bandwagon or snowballing process"—arises when individuals "base their own beliefs on the apparent beliefs of others" because those individuals lack complete information about the relevant issues (Kuran and Sunstein 1999). Informational cascades occur, in part, because of the "bounded rationality" of human beings: individuals necessarily lack the time, resources, and mental energy to gain perfect information on every matter; therefore, individuals may be inclined to accept a particular view "simply [because] of its acceptance by others" (Kuran and Sunstein 1999). Information cascades may be particularly likely to occur in the aftermath of disasters, which often curtail access to information by disrupting communication networks and which also bring basic survival needs to the forefront, perhaps crowding out some attempts to verify the accuracy of information received from fellow survivors and other sources. Hurricane survivors, for example, "may be inclined to believe that looting is likely to occur simply because their neighbors post signs declaring that 'Looters will be shot,' reflecting the neighbors' apparent belief that looting is a serious problem" (Sun 2011). They may also be inclined to believe word-of-mouth reports from fellow survivors that looting and violence are occurring because they lack adequate means and time to verify the stories and believing a false report is likely to appear less personally costly than disbelieving a report that turns out to be true.

The second social mechanism for spreading availability errors is a reputational cascade, which occurs when an individual embraces a certain view in their public dealings (a view which may conflict with the person's own privately held view) to garner public approval or forestall public criticism or censure (Kuran and Sunstein 1999). A state governor might, for example, call out the state National Guard to police a disaster-devastated area, not because she believes that looting and violence are likely to occur, but because she believes her constituents are concerned about those risks and will criticize her for failing to take action to counter those risks (Sun 2011). Similarly, a state legislator might propose passing or strengthening a state looting law after a serious disaster in his state, not because

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he believes the law is necessary to deal with disaster-looting, but because he believes he can score political points with his constituents who worry about looting of their homes.

Observations gleaned from the perpetuation of disaster mythology suggest that perhaps "reputational cascades" should be viewed as a subset of a broader category we might term "false acquiescence cascades." Individuals may have various motivations, aside from reputational interests, for "false acquiescence"—acting and speaking as though they hold a particular view, when in fact they do not—including motivations that are more public regarding. (These "false acquiescence cascades might also be termed "preference falsification cascades"; however, Kuran defines "preference falsification" primarily as misrepresentation of private preferences induced by "social pressures" such as reputational interests, (Kuran 1995, ix)). For example, during Hurricane Gilbert, one city emergency manager, who knew that "looting rarely occurs," "took very public precautions to prevent looting" in order "to convince citizens that it was safe to evacuate" (Fischer 2008). This example suggests that once a risk assessment has achieved a certain threshold of acceptance, individuals may acquiesce in, and even participate in, the perpetuation of that assessment, even if they disagree with it, for fear that the assessment is too widely held to be effectively countered and that failure to respond to that assessment will produce adverse social consequences. We might call this subset of false acquiescence cascades "futility cascades."

Scholars have thus far given insufficient attention to the possibility that public officials (or other individuals) might acquiesce in—and even promote—a particular conception of risk for reasons that are less about bounded rationality or reputational interests and more grounded in that individual's desire to further the public good in the face of substantial and intractable opposition to what the individual views as the "correct" assessment of risk.

4. Potential Tools for Countering Disaster Myth Perpetuation

Framing the perpetuation of disaster mythology as an availability cascade may be helpful in addressing the problems created by disaster myths because scholars have already identified some tools to reduce the deleterious effects availability cascades can have on risk regulation. These tools include altering the incentives of so-called "availability entrepreneurs" and insulating decisionmakers from political pressures generated by availability cascades.

The first of these ideas suggests that availability cascades might be addressed by changing the incentives of those who are principally responsible for both setting the cascade in motion and perpetuating its spread. Kuran and Sunstein (1999, p. 733) posit the existence of "availability entrepreneurs," who are "instigators and manipulators of availability campaigns," often to achieve some political end. In the disaster myth context, at least some of those most directly involved in myth perpetuation—Hollywood producers and media—seem driven less by political aims and more by commercial and other concerns. These myth perpetuators seem to be unwitting "entrepreneurs" at best, at least in terms of the political and social effects of disaster mythology.

Even the incentives of some of these accidental entrepreneurs potentially could be altered, however, by imposing penalties for the perpetuation of availability cascades based on false premises. For example, Kuran and Sunstein (1999, pp. 749-751) discuss the possibility of product defamation laws as one way to deter availability cascades that exaggerate the dangers posed by particular products. The parallel remedy for disaster myths might be group libel suits brought by disaster survivors. In the case of post-Katrina New Orleans, there is evidence that the false media reporting permanently stigmatized New Orleanians, as a group, as dangerous, violent people undeserving of our assistance (Garfield 2007, p. 58). As suggested earlier, that stigma has followed many displaced Katrina survivors to

their new homes (whether temporary or permanent) in other cities, making it more difficult for Katrina survivors to find both housing and jobs (Reckdahl 2006). The stigmatization of New Orleans Katrina survivors may also have influenced the amount of money the country has been willing to commit to rebuilding New Orleans (Reckdahl 2006).

Group libel is no remedy for these potential harms in the U.S., however, nor is it an effective deterrent of similar myth-perpetuation in the future, as group libel suits have been all but eliminated by the U.S. Supreme Court on First Amendment grounds. Although the Supreme Court upheld the constitutionality of a statute making it unlawful to engage in group libel against a "class of citizens" in *Beauharnais v. Illinois*, this holding has been severely undermined by the Court's subjection of defamation law to First Amendment inquiry under *New York Times v. Sullivan*. Nevertheless, given that the media have no obvious political motivation for perpetuating disaster mythology and have at least an aspirational commitment to truth, a targeted information campaign that exposes disaster mythology and suggests other attention-grabbing headlines (like dramatic rescues) might have some success in decreasing media reporting of disaster myths. For example, Fischer (2008) reported that education in disaster myths improved the accuracy of two reporters' coverage of a local disaster.

Disaster sociologists Kathleen Tierney and Christine Bevc (2007, p. 39) have perhaps identified a more purposeful "availability entrepreneur" of looting and violence mythology when they write that those who favor militarism in society will tend to perpetuate mythology that sets the stage for militarized disaster response. Other potential myth perpetuators include law enforcement agencies in the affected areas, who might fear losing control and might hope that rumors of looting and violence will result either in outside reinforcements or loosening of constitutional or other restraints on law enforcement activities (as under the popular conception of "martial law") (Sun 2011). Local public officials (as well as business owners and disaster survivors in affected areas), desperate for a quick influx of outside aid, might also exaggerate law-and-order difficulties on the ground in an effort to spur faster state and federal response (Sun 2011). The same officials might exaggerate law-and-order difficulties for an entirely different reason: to justify and excuse slow or inept governmental response (Sun 2011). Conversely, political opponents of current officeholders might attempt to get a jump-start on the "blame game" that often follows natural disasters (Picou and Marshall 2007, p. 13) by exaggerating the prevalence of looting and violence in the disaster's aftermath. More fundamentally, emphasizing that disaster-induced governmental breakdown or incapacity results in a kind of Hobbesian state of nature among survivors may serve to justify more mundane, everyday governmental exercises of power outside the disaster context, as well, by reaffirming that only government stands between us and chaos.

Some of these incentives to perpetuate the myth can perhaps be countered by amending disaster laws and plans to preclude the outcomes the "availability entrepreneurs" seek. For example, the Insurrection Act (10 *United States Code* 2006) which allows the President to invest federal military troops (or federalized National Guard troops) with law enforcement powers during, *inter alia*, "insurrections," (10 *United States Code* 2006) could be interpreted narrowly to preclude the President from deploying federal military as disaster police absent clear evidence of widespread rebellion against government authority (Sun 2011). Making clear that there is a substantial threshold that must be met before investing military with law enforcement authority during natural disasters might convince would-be availability entrepreneurs who favor militarization of disaster response that exaggerating law-and-order difficulties to force the militarization of the federal response would likely be futile. Similarly, if the relevant state and local disaster laws preclude the imposition of "martial law" during a disaster (or the suspension of federal constitutional rights), local police may be less likely to exaggerate rates of looting and violence because they know that such rumors cannot be invoked to

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justify restrictions on basic rights (Sun 2011). Making clear to local officials that, historically, attempts to speed aid by overplaying law enforcement concerns have often backfired, slowing the delivery of aid and interfering with recovery efforts, might also mitigate public officials' incentives to perpetuate inflated rumors of violence and looting (Sun 2011). These mechanisms for disincentivizing myth perpetuation may thus be important tools for countering disaster mythology. Moreover, if public officials are perpetuating the myths not to achieve particular political or legal outcomes, but because they are themselves swept up by the myths and exhibiting what Lee Clarke and Caron Chess have called "elite panic" (Clarke and Chess 2008), then these same legal limitations on official discretion to act on those fears may help mitigate the deleterious effects of official panic on disaster response.

The second of Kuran and Sunstein's (1999, pp. 752-58) ideas suggests reliance on politically insulated, deliberative expert decisionmakers as a solution to the arguably irrational risk regulation spurred by availability cascades. In particular, they recommend that these politically insulated decisionmakers employ cost-benefit analysis. Dan Kahan (2008) criticizes this proposal, arguing that emotional assessments of risk reflect cultural value judgments that may be entitled to some weight in policy-making, which therefore should be democratically accountable rather than insulated from politics.

What kinds of cultural value judgments might contribute to a heightened willingness to believe that post-disaster looting and violence are serious disaster risks that should be prioritized over other risks that exist in disaster's aftermath? Perhaps some individuals believe that it is worse to have their property stolen by looters than to have it destroyed by the hazard itself. Similarly, some individuals might believe that it is worse to be injured or killed in post-disaster violence than by either the hazard event or the humanitarian crisis the disaster may provoke. While it is possible that such cultural commitments exist, these commitments may do substantial harm (for example, by delaying aid) to others who do not share these commitments.

Moreover, it seems equally—if not more—likely that the myth of post-disaster violence has found a warm reception with at least some audiences because of racism and classism (Sun 2011) or because of a propensity to blame the victims in order to justify the status quo (Napier, *et al*., 2006, p. 64)—cultural commitments that clearly should not be given weight in policy making. Kahan himself acknowledges that not all value judgments are entitled to weight in the democratic process, particularly if imposing those judgments on others "exposes [them] . . . to significant physical harm or restrictions on liberty." (Kahan and Slovic 2006). Indeed, disaster mythology may be problematic, in part, because it provides a more culturally acceptable narrative and framework for playing out age-old stereotypes about minorities and the poor. There seems to be little doubt, for instance, that preexisting racism played an important role in the initiation and propagation of the looting and violence rumors that plagued post-Katrina reporting. Disaster availability cascades focused on survivor looting and violence, then, seem likely both to entrench preexisting racism and further stigmatize already disadvantaged groups.

Although Kahan's concerns do not seem particularly weighty in this context, assigning disaster decisionmaking to politically insulated experts would nonetheless be problematic. The decisions made in a disaster's immediate aftermath about response priorities, curfews, etc. seem like particularly poor candidates for insulated, deliberative expert decisionmaking. First, in contrast to most risk regulation that Congress undertakes, lives at stake in disaster decisionmaking are not vague, unidentifiable victims reduced to statistics, but concrete, more easily identifiable individuals whose lives and well-being are immediately affected. Local citizens, rightly, will demand that their elected officials make such critical decisions.

Second, all the planning in the world cannot anticipate the precise problems, demands on resources, and trade-offs that will have to be considered in a particular disaster situation. Much of the critical information will not be available until the disaster occurs (and even then serious information gaps will likely exist), and decisions will have to be made under tremendous time pressure in order to minimize deaths, injuries, and property damage. These circumstances will generally require quick executive action rather than deliberative decisionmaking by some politically insulated body. Third, most disaster decisionmaking occurs at state and local levels. Given this multiplicity of decisionmakers, it is difficult to imagine that each state or locality would have the political will or the resources to employ insulated expert decisionmakers for disaster decisionmaking, particularly since it is often uncertain which localities will actually suffer major disasters and have to call upon those decisionmakers.

Nonetheless, there is significant value in ensuring that disaster decisionmakers have access to advice and counsel from emergency managers educated in the pitfalls of disaster mythology. Thus, a first step toward countering disaster mythology may be legally requiring (*Georgia* 2007, *Connecticut* 2007) or otherwise incentivizing (*Alabama* 2006) states and local governments to hire emergency managers who have at least some college education or experience in managing disasters. Insisting that state and local emergency managers fulfill continuing education requirements would also be valuable, particularly if the curriculum specifically requires education about disaster mythology.

Similarly, the relatively new requirements for the Federal Emergency Management Agency (FEMA) administrator, imposed by the Post Katrina Emergency Management Reform Act of 2006, (Public Law 2006) are an important step toward ensuring that federal decisionmakers have more expert input. These new requirements establish that the FEMA administrator must have “a demonstrated ability in and knowledge of emergency management and homeland security” and “not less than 5 years of executive leadership and management experience in the public or private sector”(6 *United States Code* 2006). These requirements were imposed largely in reaction to President Bush’s appointment of Michael Brown, who lacked any significant emergency management experience, as FEMA Director—an appointment widely viewed as political cronyism that cost Katrina victims dearly (Krugman 2005). In contrast, the current FEMA Administrator, Craig Fugate, is widely regarded as a capable and experienced emergency manager (Thompson 2009). The Post-Katrina Act “also aims to increase the professionalism and expertise of FEMA staff by requiring FEMA to develop a ‘strategic human capital plan,’ and establish ‘appropriate career paths’ – including requisite training, education, and experience – for agency personnel” (5 U.S.C. §§ 10102, 10103 (2006) quoted Farber *et al*. 2010).

Some empirical evidence supports the conclusion that education of local emergency managers would be beneficial in counteracting disaster mythology. Although local emergency managers are more aware of disaster myths than the general public (Fischer 2008), research suggests that many still believe important components of disaster mythology. In a recent survey of local emergency managers, an overwhelming majority (85%) of local emergency managers “understood that survivors usually are the first to engage in search and rescue activities” (Fischer 2008, p. 125), but only half (50%) of the surveyed emergency managers realized that victims generally do not panic during a disaster (Fischer 2008, p. 126). “Less than half (46%) knew that survivors usually do not behave irrationally due to the shock of the experience” (Fischer 2008). Thirty-nine percent believe that residents will engage in looting (Fischer 2008).

Those local emergency managers who had taken more training courses, experienced at least two disasters, worked as emergency managers for more than five years, or had additional education had more accurate views of post-disaster

human behavior (Fischer 2008, pp. 127-28). Neither general work experience in the disaster field nor participation in disaster drills was positively correlated with more accurate views (Fischer 2008, p. 128). "Education had a greater impact than disaster experience, or any of the job experience variables (training seminars, drills, years on the job, and years in the field)" (Fischer 2008, p. 128). The survey results suggest that "hiring individuals with a college degree and then involving them in an on-going [emergency management] training program is optimal" (Fischer 2008, p. 129). Requiring that emergency managers be college-educated may pay dividends in other respects, as well. Evidence suggests that the only factor positively correlated with an emergency manager's adoption of mitigation measures (to prevent future disaster costs) is increased education (Fischer 2008, pp. 149-152).

Of course, having more educated, informed decisionmakers is not a full solution to the problems created by disaster mythology. Indeed, as discussed earlier, even the best-educated decisionmakers may feel that they have little choice but to indulge the general public's fear of violence and looting by taking very public steps to reassure people in harm's way that they can safely evacuate their homes because the National Guard or police stand ready to thwart potential looters. Decisionmakers may reasonably fear that, without such reassurances, many will fail to evacuate.

For example, Thomas Drabek, a groundbreaking disaster sociologist, has suggested that the best approach to dealing with the disaster myth of extensive post-disaster looting is to allay public fears by creating an "impression" that law enforcement is prepared to prevent looting by heavy policing of the disaster area (Drabek 2010, p. 97). Drabek suggests that local officials should "emphasize security" when dealing with the public and should "communicate loudly and clearly that security will be tight" (Drabek 2010, p. 97). In addition, Drabek suggests that local law enforcement should "buttress[]" its forces with a "citizens' patrol" (Drabek 2010, p. 97).

Unfortunately, however, these solutions are prime examples of false acquiescence futility cascades that perpetuate both the myth itself and the deleterious consequences the myth engenders. While Drabek warns against "overallocat[ing] resources" to looting patrols, official announcements that such patrols are necessary are likely to prompt additional media reporting of the myth and to bolster the public's belief that looting and violence are typically serious problems in disaster's aftermath. Those heightened public fears, in turn, may increase public demand for excessive security measures that divert resources from other, more pressing needs. Law enforcement may also rely on those public fears to justify unnecessary restrictions on freedom and freedom of movement post-disaster. Moreover, Drabek's suggestion that a citizens' patrol be assembled to police for looting may well risk the kind of vigilante violence that was observed after Katrina. Indulging and reinforcing public fears of looting seems unlikely to be the right answer.

The need for effective public education to counter the disaster myth of pervasive looting and violence is evident. Unfortunately, the challenges facing successful education campaigns are both real and difficult to surmount. Sunstein, for example, is sufficiently skeptical of the value of public education in countering overblown risk assessments that he asserts that the best solution is often to "[c]hange the subject" (Sunstein 2005, p. 125). Despite Sunstein's well founded skepticism, well designed disaster-public-information campaigns—like environmental education and youth anti-smoking campaigns—may nonetheless be among the most effective tools for countering disaster mythology (Farrelly *et al.* 2005, Vandenbergh, Brakenbus and Gilligan 2008). Public information campaigns could, for example, publicize the real tradeoffs that occur when the myth encourages public officials to prioritize law enforcement needs over search and rescue and other basic

humanitarian relief. A greater public understanding of the costs of disaster myth perpetuation – including the real risks that aid will be delayed to those in need – might help halt the spread of information cascades during disasters as individuals will have a better sense that crediting and spreading "false positive" reports of violence and looting has real costs, costs that might affect them individually or their family, friends, and neighbors. Dampening information cascades would, in turn, likely diminish the strength of false acquiescence cascades, including both the reputational cascades identified by Kuran and Sunstein and the futility cascades identified in this article.

Moreover, emotional risk assessments that reflect value judgments of the type identified by Kahan are most likely to be reshaped by public information campaigns that focus on altering the social meaning of disasters and reframing the values at stake. While the exact content of such campaigns would probably vary from community to community (Kahan 2008), if public information campaigns can help reconceptualize natural disasters as events that generally bring out the best in both people and communities, those campaigns might increase public skepticism about rumors of disaster atrocities and about the need for draconian military and police intervention after natural disasters.

One substantial obstacle that public information campaigns will likely encounter in altering people's conception of natural disasters is the phenomenon of "biased assimilation":

> Biased assimilation refers to the fact that people assimilate new information in a biased fashion; those who have accepted false rumors do not easily give up their beliefs, especially when they have a strong emotional commitment to those beliefs. It can be exceedingly hard to dislodge what people think, even by presenting them with the facts (Sunstein 2009, p. 9).

"Biased assimilation" thus encapsulates the common-sense notion that people tend to process new information in light of their preexisting beliefs; their precommitments are particularly likely to influence their assimilation of new information if they have a strong emotional attachment to, or other investment in, those preexisting beliefs (Sunstein 2009).

News coverage of Japan's March 2011 earthquake and tsunami provided an interesting illustration of biased assimilation in the context of the disaster myth of widespread looting and violence. In the aftermath of the devastating earthquake and tsunami, news sources reported—often with surprise—that there was very little looting taking place in Japan (James and Goldman 2011). Rather than entertaining the possibility that the lack of looting in Japan might reflect a broader truth about human nature that should cause us to reconsider our deeply held (and mistaken) beliefs about post-disaster human behavior, newspapers and pundits sought to "explain away" the lack of looting in Japan as the result of some unique characteristic of Japanese society or culture (Beam 2011, Chuensuksawadi 2011, Stuart 2011, cited Sun 2011). Indeed, rather than prompting reconsideration of the Katrina news coverage or discussion of the fact that much of the early Katrina reporting was overblown and inflammatory, many media reports on the Japan earthquake simply resuscitated and repeated the exaggerated claims of looting and violence perpetuated in Katrina's immediate aftermath, contrasting the calm, orderly behavior of Japanese survivors with the imagined behavior of Katrina's survivors (Chuensuksawadi 2011, Stuart 2011).

The difficulties of rooting out firmly entrenched beliefs about looting and violence after disasters suggest that public education campaigns might be most effective if they are focused on the youngest citizens. Many elementary schools provide children with basic information about disasters (by, for example, conducting earthquake drills). Education campaigns aimed at children that teach that while disasters are tragedies, they are tragedies that usually bring communities together, rather than tearing them apart in chaos and crime, might be effective in creating a

less jaundiced view of post-disaster human behavior among individuals who have yet to form strong opinions about the likelihood of looting and other criminal behavior in disasters' aftermath. Any such campaigns should, of course, be subjected to empirical analysis to evaluate their effectiveness over time.

5. Conclusion

Disaster myths—particularly the myth of widespread looting and violence—interfere with effective disaster response and recovery. The spread of disaster myths can be usefully analyzed as an availability cascade. Although there is certainly no panacea for the problem of disaster mythology, that analysis suggests that the spread of disaster mythology can perhaps be mitigated by changing the incentives of availability entrepreneurs who might otherwise perpetuate the myth, by hiring more educated emergency managers to advise local officials in disaster decisionmaking, and by creating targeted public information campaigns—particularly campaigns aimed at young people—that will help alter the social meaning of disasters. While these approaches are unlikely to completely halt the perpetuation of disaster mythology, they are important first steps in promoting a more accurate understanding of typical post-disaster behavior and designing the most effective policy and legal framework for disaster response and recovery.

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