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“Everything Always Works”: Continuity as a Source of Disaster Preparedness Problems

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This paper offers new theoretical explanations about the problems with disaster preparedness efforts for vulnerable publics. Findings were developed through an inductive, grounded theory study conducted among staff and students at a large university in Southern California. Disaster preparedness is traditionally conceptualized as a collection of practices consisting of the collection and storage of material objects, resources, knowledge, and plans. People who do not engage in these activities in known risk areas are often blamed for the negative consequences of disaster. Here it is argued that preparedness reflects an assumed continuity between pre-and post-disaster contexts. This is closely tied to the pervasive need for social actors to maintain a sense of continuity in everyday life otherwise known as ontological security. The continuity of infrastructure and everyday life are major obstacles to the engagement of preparedness efforts for people. This study shows the notion of a potential catastrophe presents as an ontological crisis that impedes people’s preparedness practices on both organizational and individual levels. It also demonstrates how the very idea of preparedness as directly connected to successful response is a product of the particular societal context of a risk area.

Keywords: Disaster Preparedness, Risk Society, Safety, Ontological Security, Grounded Theory

Introduction

In the aftermath of Hurricane Katrina, there was plenty of blame to go around! The government failed. Too many assumptions were made about the magnitude of the event and who was going to do what. FEMA failed. Only one-year prior, FEMA had conducted a drill on a “Worst case New Orleans disaster”. Where was the follow through? And in some cases the people failed. Many assumed someone else would

jump in to take care of their situation. Bad assumption! (Disaster Resource Guide 2013)

In 2012, six scientists and one government official were convicted of manslaughter for a failure to communicate accurate hazard risk for the citizens of L'Aquila, Italy where an earthquake killed 309 people. The justification for their sentence was "deaths in the earthquake could have been avoided had people not been reassured by one of the experts that the situation was "normal" and that they should stay in the area (Hooper 2012)." Echoing similar themes of blame in a different disaster context, the Huffington Post reported in 2013 that "A large number of Louisiana Republicans think President Barack Obama is to blame for the federal government's poor response to Hurricane Katrina, according to a new Public Policy Polling survey released Wednesday -- despite the fact that the storm occurred three years before he took office (Siddiqui 2013)." Because risks associated with foreseeable hazards are somewhat knowable and thought of as preventable, blame can be an additional consequence of disaster.

Often, actions engaged to mitigate specific risks are intended to reduce potentially negative outcomes whether or not they will happen in the future. For example, the threat of natural disasters is commonly perceived as knowable in some hazard risk areas. The ability to identify potential vulnerabilities and then communicate risk elicits a sense of responsibility to engage preparedness efforts. The negative consequences of disasters in areas of known risk can be constructed as due to a lack of preparation. Thus, a lack of protective actions can result in discussions about the responsibility of the individual and often lead to blame.

Similarly, conscious action to prepare for disasters is considered essential for the assurance of survival and safety in disasters. According to the Disaster Resource Guide (2013):

"The emergency management community has known and preached a clear message for more than two decades: Preparedness is a personal responsibility. It takes time and money to prepare, and the money spent may never really be needed. But in a disaster, the investments in preparedness will return dividends a thousand-fold."

Scientists and institutions carry a responsibility to help create safety, but it is also believed that members of the vulnerable public should actively engage in preparedness efforts if they live in risk areas. As with the Italian scientists and the public affected by Katrina, there is an assumption the knowledge of risk elicits responsibility for action, and preparedness for disasters guarantees safety and/or positive outcomes in post-disaster contexts. Preparedness, however, is very difficult for households to achieve. Yet, both disaster science and management continues to grapple with 'how to make the light turn on' for the underprepared public who are responsible for their own safe future in the face

of potential crises.

The research presented in this paper provides an evidence-based critique of the larger scholarly and institutional assumptions of problems with the preparedness concept of disaster management. Predominate beliefs of inaction in the face of risk are problematic because blame is often perhaps misplaced on a public that is constructed as disinterested, while not understanding their perspectives about this concept. Existing scholarship is often used to develop evidence-based approaches to motivate the public based on an assumption that preparedness is the best way to ensure successful disaster response. Instead, the research presented in this paper demonstrates people do not prepare for other reasons than currently understood, and that the preparedness approach is perhaps not the best way to ensure a disaster ready public, if that is indeed possible.

Here, theory derived through inductive research suggests the public are not to blame for poor preparedness efforts, rather the problem rests in the tension between how people (re)produce safety in their everyday life, and larger constructions of a ‘risk society’ that constitutes the modern, developed world. Mainly, as the research will show, the problem of disaster preparedness has origins in the continuity of a reproducible reality that arises as people carry out their everyday lives that manifest in a few important ways.

The arguments presented in the paper are data driven; informed by an inductive, grounded theory study conducted among both those who manage disasters, and those who are perceived as vulnerable to a major earthquake at a university setting in Southern California. This method was chosen as it provides a conduit for an emic theory that produces a richer view of 1) why preparedness is a problem for people, 2) why it is a possibility that disaster management will always struggle with motivating people to prepare for disasters, and 3) why issues related to the assignment of blame in disaster situations are ultimately problematic. Potential practical findings for disaster management institutions in developed countries are also discussed.

Literature Review

Risk is a feature of a modern society that is constructed as plagued with uncertainty. Terrorism, emerging infectious disease, climate change, natural disasters, and even the apocalypse are only some of the dreads that modern humans fear. Theorists such as Ulrich Beck (1992; 1995) and Anthony Giddens (1991; 1999) have argued the experience of risk is intimately tied with modernization. Contemporary society is overly preoccupied with risk, whether real or imagined.

The ‘risk society’ is a product of modernity, constructed through three stages of social change. Beck (1992) defines these as pre-, simple, and reflexive modernity – the latter of which characterizes the risk society. Important to the notion of reflexive modernity is the conceptual distinction between the two types of contemporary society known as ‘industrial’ and ‘risk’. As Lash and Wynne (1992:3) explain, “The axial principle of

industrial society is the distribution of goods, while that of the risk society is the distribution of ‘bads’ or dangers. Further, industrial society is structured through social classes while the risk society is individualized.” Even though the industrial society is conceptually distinct from it, the risk society is also industrial because industry and science play a key role in the creation of risk.

Safety is often thought of as the counterpart of risk. On the contrary, these two exist not as binaries, but in a mutually constitutive relationship with each other. For example, the fear of risk necessitates the creation of safety, which perpetuates the idea that a threat exists and so on, and creates the risk society. Fundamental here is the related belief that the modern world is a dangerous place therefore people must act to create safety in a variety of ways. However, assumptions that the modern world is more dangerous than the past are false.

As Giddens (1999) explains, “The idea of ‘risk society’ might suggest a world that has become more hazardous, but this is not necessarily so. Rather, it is a society increasingly preoccupied with the future (and also with safety), which generates the notion of risk (Giddens 1999:3).” Beck (1992:24) argues similarly, “Risk society is a catastrophic society. In it the exceptional condition becomes the norm.” The crucial point here is that catastrophe is the exceptional condition. The following quote, while anecdotal, demonstrates:

Not only are we at exceptionally low risk of what once plagued us – starvation, animal attacks, childbirth, and exposure to the elements. We are also no longer at high risk of dying from a minor cut or unsanitary water. For the most part, those in the developed world have food, shelter, clean water, fresh air, waste-disposal, access to emergency health care, and evacuation warnings when hurricanes are imminent. By all measures, we are the healthiest, smartest, richest, safest people in human history (Rankin 2012).

Thus risks, particularly for developed nations, are drastically different than in the past where people faced more individual threats with less societal implications. The scale of risk today is greater, such as in the case of natural disasters, but the individual, by and large, is relatively safe.

A developed society is ostensibly defined in part, by how well it keeps its citizens safe in the face of risk. This is perhaps best exemplified in the notion that the more vulnerable a citizenry is to a threat, the less developed the governance structure of that nation (Hilhorst 2003a). Developed nations have the ability control which risks are acted upon, and according to Douglas and Wildavsky (1982), intentionally choose risks to focus on in ways that illuminate the inherent values and morals that underlie these choices.

There are institutions designed to specifically create safety for the citizenry. Disaster

management is one example of such an institution that uses a hazard-centered paradigm to control the many threats that events create. Even still, “Disasters seem to pose a challenge to this paradigm since they are constituted of moments where nature clearly escapes human control. Disaster management, however, can bring hazards as much as possible under control (Hillhorst 2003b:42).” The extent to which disasters are adequately mitigated through the hazard centered paradigm remain to be seen given the enormity of recent events such as Hurricanes Katrina and Sandy, as well as the triad of catastrophic-level events associated with the Tōhoku, Japan earthquake of 2011.

While the ability of the hazard centered paradigm to adequately control risk is uncertain, one way in which this approach is employed is through the practice of disaster preparedness. Pre-event preventative actions are believed to be important to successful responses because disasters can pose real risk to people in environments where these events could occur, (Wisner et al. 1994). Despite known risk, scholars have shown preparedness levels in most households within vulnerable areas are low (see Becker et al. 2012; Lindell and Perry 2000; Ronan and Johnston 2005). It is clear that people have trouble with the engagement of preparedness actions despite the threat of harm from natural hazards.

Many of the explanations offered for problems associated with disaster preparedness focus on individual or group characteristics. For example, personal qualities are used as explanations for a lack of preparedness engagement. These include gender, age, race and marital status (Dooley et al. 1992). Others argue that people tend to engage in more preparedness activities if they think there is a viable threat and their levels of preparation demonstrate this belief (Burns, et al. 1993; De Man and Simpson-Housely 1987; Lazarus and Folkman 1984; Lindell and Perry 2000). Thus, the choices people make to mitigate the risks of disasters are based in part on how people construct and perceive the risk of a particular risk agent as real or likely (Cigler 2007). Inherent within all of these problems is the assumption that people choose to either engage in preparedness actions, or ignore the risks with inaction.

Some scholars argue the choices people make to prepare for disasters in light of risks reflect individual decision-making processes. Others suggest they are highly influenced by social, economic, and political marginalization (Kendra and Wachtendorf 2006:321). As such, protective actions are perhaps erroneously linked to explicit choices people make in their lives (Tierney 2007), and ultimately to effective disaster responses. Kendra and Wachtendorf (2006:321) argue:

Most conceptions of hazards are now gathered around the premise that hazards do not exist as things by themselves or only as forces of nature. Rather, the idea of hazard includes to a large extent the choices that people make...

Choices to act or not in light of foreseeable risks are therefore linked to one’s level of

preparedness and ability to respond in a disaster situation. On the other hand, some scholars suggest that personal characteristics are not fully explanatory of the failure of the public to prepare for disasters. Rather, the societal contexts in which those at-risk are embedded are also important (see Becker et al. 2012; Lindell and Perry 1992; 2000; 2012; Wood et al. 2012; for example). If this is true, then issues related to a failure to prepare fall more on a society itself than the individual or household.

Despite problems with motivating the public to decrease hazard vulnerability, there is a continued emphasis on the creation of better ways to motivate at-risk publics to prepare. But as Clark (1999:57) explains, “Plans and success sometimes coincide. The absence of plans and the lack of success also sometimes coincide. But sometimes neither condition is true.” While preparedness efforts remain important, this paper will demonstrate current thinking about the concept needs to be reconsidered because it does not adequately reflect: 1) public interpretation of risk and how it reflects upon human action/inaction, 2) alternative explanations for the problems with preparedness outside of decision-making processes and individual characteristics, and 3) the influence of the risk society on their constructions and actions related to preparedness. The research presented in this paper addresses these issues through empirical research conducted in a specific risk context.

Methods

The intent of this study was to derive theoretical findings about what disaster preparedness means to people and implications for action. Thus, two related research questions both guided and evolved from the study. They were: *what does preparedness for a large earthquake mean to staff and students of EQU?* And, *how do these meanings influence actions related to preparedness?* The following section will describe the methodology employed to answer these questions.

A grounded theory approach was used for data gathering, analysis, and ultimately to derive the theory produced in this paper. Grounded theory is the *systematic* and *comparative* collection and analysis of data intended to produce theory rather than test hypotheses (Corbin and Strauss 2008; Glaser and Strauss 1967). Crucial is the documentation of language, practices, and norms constructed by both participants and the researcher as a participant-observer-expert acting together in the study environment (Orlikowski and Baroudi 1991). Accordingly, the author witnessed how preparedness was enacted in the research setting through field research, in-depth interviews, and archival material analysis.

“Earthquake University” (EQU) located in Orange County, California served as the study site. It was selected for two reasons. First, the university is in an area at-risk for a major earthquake. Because an earthquake there is a possibility, there are many preparedness activities engaged both administratively, and also among various populations it serves. Second, it provided an opportunity to examine preparedness

perspectives from those involved in disaster management to some extent, and also those of the public. University staff participants all had some role related to preparedness efforts on campus and student participants, as representative of the vulnerable public, were expected to take measures prepare for an earthquake.

The study included three major forms of data. This data triangulation produces rich information necessary to produce interpretive findings, but also helps the analyst uncover inconsistencies and conflicts in the data (Schwartz-Shea and Yanow 2006). The author conducted in-depth, open interviews with both participant groups. Events on campus, such as emergency drills and search and rescue trainings relevant to disasters, as well as preparedness tours of students' homes were used for observational data. Additionally, a large amount of archival materials, such as campus disaster preparedness brochures, university disaster plans, and other relevant emergency management training materials were the final type of data.

Steps for data collection and analysis were guided by principles of theoretical sampling in grounded theory. In this approach, a researcher uses both pre-existing (e.g., current research on the subject of interest) and evolving knowledge (e.g., data produced in the study) about a phenomenon to guide selection of participants (Corbin and Strauss 1990; Glaser and Strauss 1967). The author first solicited staff members with major roles in disaster management (e.g., emergency management coordinator) at the university to contribute to the study.

The next set of staff participants were obtained through these initial contacts that referred additional relevant employees. Student participants were obtained through snowball sample, as there were no conditions of participation other than graduate standing (Marshall and Rossman 2011). This approach uses referrals from initial contacts to recruit additional participants.

In-depth, active interviews conducted with both students and staff used an open format. This means while there was a general interview protocol for both groups (see appendix 1 for full protocol) with questions tailored by type of participant, the conversation that emerged in the interview guided its progression (Holstein and Gubrium 1995). For example, staff was asked questions about departmental disaster plans that provided detail about their work in relation to earthquake preparedness. Worst-case scenarios were proposed during interviews where participants were asked to respond with what they imagined they would do to deal with expected disruptions.

A similar approach was used during student interviews. For example, potential disruptions as outlined in the Great California ShakeOut Scenario developed by Jones et al. (2008) were posed to elicit conversations about how students might negotiate a range of possible short-term and long-term issues. Such disruptions included lack of housing and infrastructure, as well as an inability to go back to work or school for an extended period of time.

The format of interviews was different for the two groups. Staff interviews were face-to-face events, lasting generally an hour and held in their respective office. Interviews of students consisted of a similar sit-down interview, but also occurred alongside a 'preparedness tour' of their home, which was guided by a preparedness inventory (see appendix 2). These methods provided insights on the organizational, managerial perspective of disaster preparedness, and that of the students as representatives of a community/public and as an individual/household.

Field observations were another important data source. Disaster preparedness trainings, drills and exercises oriented to a range of events happen in the organization on a relatively regular basis and served as a major resource of data. Information about each observation, such as relevant actions and conversations related to the research questions, were documented in detailed field notes (Lofland et al. 2006). Events such as, but not limited to, earthquake and drills, evacuation events, and emergency preparedness trainings held in various organizational departments were observed as part of data collection activities. These provided information about the specific, prescribed actions people engage related to preparing for earthquakes not captured through interviews and observation of most training activities. Each activity generally lasted from one-two hours per event. Most were held in a relevant department (e.g., evacuation trainings for graduate housing).

Targeted preparedness tours of student's home were another resource for observational data. Tours provided information on; 1) how formal earthquake preparedness plans were conveyed to students; 2) if and how students' plans into action through practices of preparedness, if at all (e.g., training events and drills); 3) how students drew on resources and enact practices not captured in formal preparedness efforts (e.g., camping); and 4) and what it meant for them to be prepared for a catastrophic earthquake. They also contributed insight into; 1) materials students used, stored, and collected to prepare for an earthquake; 2) why they had these particular materials; 3) where these materials are kept; 4) rationale about the placement of materials; and 5) information about how they imagined a disaster response would unfold.

The last major source of data was archival materials. These consisted of pamphlets handed out at preparedness drills or related events, paper preparedness plans, syllabi for emergency preparedness courses, and a course book for university search and rescue ("SandR") training. There were also numerous visual materials posted on-campus intended to serve as guides for action in response to an emergency. For example, the emergency management division posted a flip-card, detailing steps to take in a variety of emergencies including earthquakes in the hallways and restrooms of many campus buildings.

Data collection took place from April 2011 until June 2012 and was suspended once theoretical saturation was achieved. Theoretical saturation is an important milestone in the production of grounded theory and does not automatically occur when a researcher

has conducted a pre-determined number of interviews and observations (Suddaby 2006). While the initial target of this research was 60 interviews and 100 hours of observation, theoretical saturation was reached by the 15th interview, with both staff and students where the themes uncovered during interviews became repetitive. The actual number of interviews was 40 (19 students and 21 staff members) with 100 hours of observation and over 500 pages of materials to ensure saturation had been reached through data analysis efforts.

Data Analysis

The major analytical approach was informed by grounded theory. Although data collection is discussed as separate from analysis, these efforts were conducted concurrently as part of the constant comparative method used in the generation of theory outlined by Corbin and Strauss (2008), and Glaser and Strauss (1967). The data analysis process through this method began through a detailed, comparative examination of the data to develop categories focused on explaining what was happening in the study environment. The following explains the entire process of data analysis in the grounded theory approach.

All potential categories were first coded into general themes where initial impressions about what was going on were written in theoretical memos. These efforts captured key concepts relevant to the research questions. Because there were two different participant populations with inherently divergent roles in preparedness, data from each set of participants were first coded separately. They were combined later to identify themes that ran through the data from both groups. Multiple rounds of more refined coding were necessary to flesh out theory from the data.

This consisted of going line-by-line asking questions such as, “What does the participant mean by this particular anecdote or interpretation”? For example, a code that emerged in the beginning was “continuity”. The code was then examined through each incident relevant to an emerging idea of continuity to see the range, types, and dimensions of the phenomenon.

Table 1 demonstrates major codes that emerged from the data. Next, data codes were integrated – this was a process of taking major themes from the data, comparing them, and then putting them into more refined categories such as ‘continuity in everyday life’ or ‘continuity of safety. Codes and themes for all participant groups were combined and then reduced into smaller clusters of convergent and divergent themes.

These were then compared to existing literature and theory to assess novelty in a process called data-theory coupling (Golden-Biddle and Locke 2007). Important in this process, the analyst must make decisions about which codes and themes to discard or ‘delimit’ the theory as the data can produce an overwhelming amount of information.

Table 1. Codes

Code –Staff	Sub- Categories	Code- Archival Materials	Sub- Categories	Code- Students	Sub- Categories
Collecting and Storing	-Food -Water -Tools -Other survival resources -Information	Collecting and Storing	-Food -Water -Tools -Other survival resources -Information	Collecting and Storing	-Food -Water -Tools -Other survival resources -Information
Sub- Categories of Collecting and Storing					
<i>Planning</i>	Creating a list of action steps -Following a list of action steps - Accomplished through lectures, pamphlets, drills, exercises, etc.	<i>Planning</i>	-Creating lists of action steps -Following a list of action steps - Accomplished through lectures, pamphlets, drills, exercises, etc.	<i>Planning</i>	-Ability to respond -Making knowledge conscious -Some knowledge of planning materials and events
<i>Knowing</i>	-Correct information/ expert knowledge about: -The risks -The plan -Sharing knowledge -Past experience with disasters	<i>Knowing</i>	-Correct information about: -The risks -The plan -Sharing knowledge	<i>Knowing</i>	-Correct information/ expert knowledge about: - Misinformation -Knowledge gained through youth and past experience
Continuity	-Continuity of: -safety -everyday life -infrastructure	Continuity	-Continuity of: -safety -everyday life -infrastructure	Continuity	-Continuity of: -safety -everyday life -infrastructure
Responding to scenarios	When the plan fails, create another plan			Responding to scenarios	-Applying skills and knowledge -Reformulating steps/re- assessing based on new information

Table 2 demonstrates major themes after the processes of integrating and delimiting was complete. All of these steps were engaged until no new themes or information emerged from the data in what is called theoretical saturation.

Table 2. Themes – Subcategories of Continuity

Theme –Staff	Notes	Theme- Archival materials	Notes	Theme- Students	Notes
Continuity - General	-Plans -Infrastructure continuity - Organizational capacity -Existing organizational networks -Existing resources -Carry over to future	Continuity - General	- Plans/preparedness ensure successful future -Assure trust in authority/disaster management	Continuity- General	-Existing social networks -Personal abilities and practices - Infrastructure continuity -Helping behavior -Physical safety -continuity in everyday life
Continuity- Infrastructure	-University infrastructure will persist in most disaster scenarios -Larger infrastructure will persist in some fashion -Infrastructure as necessary bridge to normalcy	Trust - infrastructure	-People cannot rely on infrastructure to persist in disaster -Preparedness replaces infrastructure in disaster -infrastructure will be eventually restored	Trust - Infrastructure	- Everything always works in Orange County
Continuity – Safety	- safety will continue (is absolutely certain) if preparedness actions are undertaken -Orange County is safe thus it is hard to prepare for disasters	Continuity- Safety	- safety will continue (is absolutely certain) if preparedness actions are undertaken	Continuity- Safety	- safety will persist through all phases of disaster. -Orange County is safe now and will continue to be safe after. -I am capable of creating my own safety in a disaster even without preparedness measures (I am skilled/I am resourceful)

Analytic efforts were terminated at this point and the researcher focused on writing up the theory, drawing heavily on theoretical memos created throughout this process. The following section develops the theory that emerged from the above efforts. These interpretations are evidenced through the presentation of raw data in the form of supportive quotes. The findings are then discussed more abstractly in light of existing theory.

Findings

This next section discusses major theoretical categories and the dimensions that emerged in data analysis related to the central research questions. First, the broader meaning of disaster preparedness in the context of the study is discussed through the perspectives of both sets of participants. Second, dimensions of continuity, a critical theme that emerged from the data, are outlined with respect to the meaning of preparedness detailed in the first section of the findings. Finally, theoretical explanations for the ‘problem of preparedness’ are derived from participant/researcher interpretations.

The Meaning of Disaster Preparedness: Preparedness as the Illusion of Temporal Continuity in Disasters

The general concept disaster preparedness evokes thoughts of action; when people prepare for disasters they collect objects and resources such as food, water, and tools. People in risk areas are also encouraged to develop a plan and have one in place in the event a disaster occurs. Recommendations suggest potential victims should practice their plan as a way to routinize and ingrain potential response actions so they are second nature. This is the ‘traditional’ construction of disaster preparedness named by Baker (forthcoming), and described by Becker et al. (2012).

Disaster preparedness in this respect is a product of imagined responses to a variety of scenarios as well as actions of collecting and storing. When people engage in preparedness efforts, in general, a successful future after a disaster occurs is generally envisioned. In all interviews, participants related a belief they could achieve successful responses to even the most challenging post-earthquake situations, thus supporting this characterizations of this practice.

This sentiment was a major theme in all of the data and was reflected very strongly in both staff and student interviews. Students, while generally lacking traditional preparedness engagement, were able to imagine the use of their knowledge and capabilities in connecting present skills to a future disaster response. As one explains:

“I have family nearby, 16 or 17 miles away. I could get to their house if I needed to. It’d be easier with a bike even if shit was fucked up; I could get to them, I’m sure. That’s where I would want to go because they have a more structurally stable place and a better neighborhood and they have a ton of resources...I could walk to Encino from here, it would be a trek but I could do it and I’m built for that kind of thing. I could eat 600 calories a day and get there and I would be all right but I need water...If I am alive and have access to water, I could probably do a hell of a lot and figure out resources pretty quickly.”

Others suggest the following: “People will figure things out, experience helps out, more so than maybe this [earthquake kit].” This example demonstrates a belief expressed by participants that they “figure things out” more so than rely on preparedness efforts. Staff reported similar ideas through the lens of individual work roles within departments. One high-level management staff member relates:

“...We will be able to restore [normalcy] eventually somehow...within three days is really a target. I think that would be realistic for us to give a good analysis of our system and get everything back up, I would hope, at least in some manner we’re up within three days or so.”

Similarly, another employee claims: “...Priorities and resources, you always seem to find them when you need them.” All participants reflected confidence in their ability to negotiate a disaster.

Some of this can be explained through existing theory. People have difficulties dealing with uncertainty, and issues such as potential disaster causes stress for people (Clarke 1999; Turner 1976), and institutions (Hewitt 1998; Stallings 1995). Because of this, people have trouble with the worst-case scenario and it results in inaction to reduce risk, see Cerulo’s (2006) concept of positive asymmetry and Diamond’s (2005) landscape amnesia, for example. The quotes above support these claims. All informants, when probed about *how they would respond in an earthquake*, assumed they would survive no matter the magnitude, and also be able to create some sense of normalcy – or a return to the way it was in a post disaster situation.

But what happens when people reflect on *what it means to be prepared* for a disaster? The following quote from a staff participant demonstrates a typical response to this question: “...The little buzzword or catchphrase is, “to be able to do tomorrow what we did yesterday, despite what happens today”. So that is what it [disaster preparedness] is all about.” Preparedness for a disaster means that a person or entity should have the capability to both survive and re-establish a sense of normalcy after an event occurs – or preparedness efforts help establish the potential for continuity from one point in time to the other (e.g., from pre-to post-disaster contexts). As much as people were clear about

the temporal connections between pre-and-post disaster contexts through present capabilities, they were also as certain about the consequences of not being prepared as they were about what it means to be prepared. One employee reflects, “If you aren’t prepared, then you are going to pay the price when something does happen because you are not going to be [able] to get things back up and running.”

Implied is: 1) disaster preparedness assures the temporal continuity of ‘normalcy’ from pre-to post-disaster time frames, 2) if a person does not prepare, they will be unable to restore the continuity of normalcy from one temporal frame to the other, and 3) if a person does not prepare, then they deserve what happens to them. There is an assumed relationship between planning-based actions and response in the meaning of preparedness, with the more actions and planning people do, the better it is thought they will fare in a disaster.

In contrast, research has made the case for the importance of emergent, flexible, and creative action in disaster contexts. Scholars such as Baker Feldman, and Lowerson (2013), Kendra and Wachtendorf (2004; 2006) and Wachtendorf and Kendra (2006; 2012) all demonstrate evidence for this claim. Others have noted that successful disaster response depends on the strength of resources and community connections, perhaps more so than preparedness efforts (see Mamula-Seadon, Selway, and Paton 2012 for example). This indicates acts of planning and preparing might not be as fundamental to post-disaster continuity as previously thought. Rather, what is important is the capability of a person or entity to respond in the moment to create continuity, but also a sense of normalcy. This claim is supported by research that demonstrates people are driven to create a sense of sameness in post-disaster situations through improvisation (Wachtendorf and Kendra 2012). Thus, there is incongruence between what *preparedness* means in the context of a risk environment, and what *response* actually looks like in disaster situations. This leads to questions about why disaster preparedness is persistently viewed as the answer to successful response, when there is evidence to the contrary.

The next sections break down the more general conception of continuity reflected in the meaning people make of disaster preparedness to offer new suggestions about why it is problematic for people. The data points to two different but interrelated aspects of continuity that are influential on the ways meaning influences actions; continuity of infrastructure, and continuity of safety. These different notions of continuity in relation to the meaning of disaster preparedness for people are described below with supportive quotes. Both are related to the perceived permanence of day-to-day experience and also interfere with the ability to action for situations that call into question the continuousness of everyday life. They are fundamental to the production of a sense of ontological security, which is ultimately inhibitive of preparedness action. Later, the theoretical discussion of continuity will be linked to the larger question about why preparedness in the traditional sense continues to be pursued by disaster management institutions despite evidence that shows emergent response is important.

Continuity of infrastructure

All participants reported a consistent belief the larger infrastructures, such as telecommunications and networks, or even water services and sewerage would persist in some fashion post-earthquake. They also described a sense of trust in their own (or others') ability to find needed resources in changing disaster contexts. For example, many related an assumption that if Internet capability were compromised, telephone landlines could replace this technology to insure communication continuity. If landlines were not available then communication would be achieved through face-to-face contact. One student had a clever solution for loss of typical communication means:

“...a lot of people [in disasters] do need to get a hold of somebody right away. If I was evacuated...if there was media around, I'd *try to be a media* somehow...Media's always around...They find a way before the help, right? And so if there was a helicopter or something, if you were on media, people will see that. That's what you see first. Everybody's watching. Everybody's finding out what just happened and you just see pictures from helicopters and you always see people waving and when you see that person, you're, like, I totally know who they are.”

Trust in infrastructure continuity was very inhibitive of engagement in traditional preparedness actions. Participants displayed confidence in their ability to engage or invent a manner of communication to find and gather needed resources. They also related this would persist regardless the level and extent of disruption.

The belief in infrastructure continuity is indicative of the cultural and societal contexts in which participants are imbedded. One student, an American, describes a trust in the continuity of infrastructure as a value:

“...When I think of people being prepared...I think about people not having trust in institutions and infrastructures...I think about crazy people because I am a baby of liberals and I'm supposed to ideologically trust a certain safety net and so people who don't...I think about them as delusional.”

The next three data selections contrast thoughts about infrastructure continuity in countries other than the United States, particularly the Southern California context. The following quote from a doctoral candidate who divides her time between living in Shanghai and Orange County demonstrates:

“...when I come here [to Southern California] everything is easy[in contrast with Shanghai]; the idea everything could potentially from one moment to the other be completely gone seems so unreal that I find it’s hard to plan for it. Right now, I enjoy the convenience and infrastructure here because it allows me to not worry so much about the day-to-day.”

In the next example, another student describes her childhood experience with an extreme lack of infrastructure to life in the States where continuity is expected.

“I think it is because we have never had that devastation in our lifetime and because people have an expectation of infrastructure here. There is this expectation of things going to just fine... I grew up with a ‘be prepared for anything’ mentality. I am a Baha’i. I lived in Iran where we were minorities and might be persecuted by the conservative fanatic majority and you always had to prepare for a time where they wouldn’t allow you to go to school or the store. It always happened. So there was always this where we would have to prepare for something that might have happened...We had [infrastructure] ourselves. There was no expectation of infrastructure working...”

Another student from Iran had lived in Orange County for about 3 years. She describes situation where her daughter was locked in her car and compares it to one aspect of predictable infrastructure:

“Here [in Orange County]...I see response...my daughter was stuck in the car...I locked her in and the key was there. So here they rescue things...I called 911. They came. This is not like the same as (an) earthquake because it’s just like one person in trouble, but I feel they respond good.”

On a personal level, students either reported they would have the ability to find resources to cope with a lack of consistent infrastructure after an earthquake no matter the circumstance, or they had difficulties imagining some version of infrastructure would not persist or be available over time. Students from different areas of the world who had dealt with infrastructure inconsistency knew from previous experience they could cope with the disruption of an earthquake disaster despite a lack of engagement in preparedness activities.

Students were not alone in connecting disaster preparedness with infrastructure continuity. For example, a staff member, who had helped deal with a major power outage in San Diego some months before the interview, made the following observations:

“They [San Diego] just had [the power outage]...and they’re calling people in front of city council saying, “Our power was down. It can’t happen.” It’s, like, this is reality...”

there is an expectation that the power's always there. Another staff member relates the following point:

“Then, suddenly, it [needed resources and infrastructure] appears. Is Obama giving it to you? Who knows? It doesn't matter. It just appears when you really, really, really need it.”

While staff discussed parallel sentiments about infrastructure continuity, their perspectives stem from a belief the key practices of the organization would persist despite great challenges to the continuity of work life post-earthquake. They reported trust in the abilities of organizational actors on higher levels or in the appropriate department would have the skills, abilities, and communication methods to address problems and restore work functions at some capacity in a post-disaster atmosphere. Staff also believed that critical functions of university work would be re-established through collaborative efforts of existing partnerships, whether through the work of their particular department, high-level university administrators, regional power companies, vendor relationships, the federal government, or university partners.

Notwithstanding a possible devastating collapse to infrastructure, staff and students failed to imagine an inability to draw on some version of existing structures and restore a sense of normalcy in all disaster scenarios. There was a pervasive sentiment that some form of infrastructure would always be there, even when compromised on minor levels (e.g., power failure). The reason for this is because, in the participants' collective experience, infrastructure in Orange County was, is, and always would be there. This profound belief in infrastructure continuity in both pre-and post-disaster contexts is related to a larger, perhaps more fundamental trust in the continuity of everyday life. This next dimension is detailed in the following section.

Continuity of everyday life.

The experience of a catastrophic earthquake, while potentially very real, was beyond participants' past and present reality, even for those who had been through a previous disaster or crisis (e.g., Hurricane Katrina, forced refugee status, etc.). Both students and staff related this as highly inhibitive of preparedness practices on organizational and individual levels. This was expressed by participants with sentiments such as, “Most of the time people are thinking that everything is going to tick over normally”, or as one staff member put it, “The likelihood [of a major earthquake] is small and we have...other burning stuff to worry about. We have deadlines.” Another staff member explains:

“I can see why people don’t [prepare]; it just feels like it is never going to happen. I have been hearing since I was a child, “oh you know a big earthquake is going to happen any day” and I just think that it becomes unreal.”

The risk of a major earthquake was fundamentally disruptive to this illusion of a reproducible reality people create and recreate in the enactment of everyday life. This is summarized in a quote from a student below:

“...it’s the disconnect between the behavior and the reality, the culture, the social relations, the technology and every aspect of life...it’s very symptomatic of our entire way of life...We think about it like, I wake in the morning and I have my coffee and I do some work and everything’s fine when I go to bed...”

Closely connected is the belief that everyday life is ultimately inhibitive of the idea a disaster could be real, which ultimately influences the preparedness actions of people:

“Because the front line people have pretty much today to worry about: their jobs, their focus on getting the work done till 5 pm or 5:30 today, then out the door they go until tomorrow and then the thing repeats...we don’t think about earthquakes because it’s just so remote...because it’s not part of our jobs. It’s not in our job descriptions to worry about earthquakes.”

The prospect of a possible disaster with long-term consequences also interferes with the participants’ contiguous experience of everyday life as safe. This sentiment is likely a product of the highly developed environment in which the study was conducted. The university as located in Orange County, California is within one of the safest cities in the country, with relatively high-income and development. The idea of preparing for a disaster conflicts with how participants report experiencing life in Orange County as *safe* and *not risky*. One student explains:

“There is a sort of contradiction in California because it feels so safe here especially in contrast to China...Everything is so ready at hand. You expect constantly for something to fail in China and so you’re more prepared for things... you’re more prepared for these things to happen in a way and here it doesn’t...Everything always works.”

Again, while some of this can be explained through the context of the study, it also supports existing social theory that suggests ontological security, or the need to create and recreate a feeling of predictability through a normalized experience of everyday life, is fundamental to social order. Therefore, people do not prepare because the notion of a

disaster, while scary (see Becker, Paton, Johnston, and Ronan (2012), is not congruent with the experience of their current reality. This finding has important implications for future institutional disaster management practices.

Conclusion

“There cannot be a crisis today, my schedule is full.”

-Henry Kissinger

“Any idiot can face a crisis; it is this day-to-day living that wears you out.”

-Anton Chekhov

In a modern world that is painted as increasingly threatening, disaster preparedness, and perhaps more general practices of planning provide the illusion that normalcy can be achieved after an event if prescribed actions are taken. This notion of preparedness weaves together temporal gaps where pre-disaster action connects to post-disaster recovery, creating a vision of seamlessness between these two contexts that feeds into the necessary creation of ontological security. Disaster preparedness is both reflective of and hindered by this need.

Scholars have theorized the consistent engagement of routine practices is fundamental to a need for ontological security. Giddens (1984) discusses this in relation to predictability as:

“Ordinary day-to-day life – in greater or less degree according to context and the vagaries of individual personality – involves an *ontological security* expressing an *autonomy of bodily control* within *predictable routines* [emphasis in original]. The psychological origins of ontological security are to be found in basic anxiety controlling mechanisms...the generation of feelings of trust in others, as the deepest-lying element of the basic security system, depends substantially upon predictable and carrying routines...” (Giddens 1984:50).

The need to create normality through predictable behavior is so strong, an inability to do so over time, according to Giddens, can lead to severe ontological disruption – or an experience of ‘chaos’ for people. Predictable, and other mundane aspects of everyday life, such as routines, constitute order and are essential to the management of the natural unpredictability inherent in the social world. People get caught up in their everyday routine because it is central mechanism to the creation of an illusion of consistent safety.

On the other hand, ontological insecurity arises when, “radical disjunctures of an unpredictable kind which affect substantial numbers of individuals in situations that threaten or destroy the certitudes of institutionalized routine” (Giddens 1984:61).

Giddens suggests ontological insecurity, as what happens in the absence of routine, is drastically detrimental to human functioning. Similarly, Misztal (2001) argues:

“Probably the best way to grasp both the factual and normative dimensions of normality is to say that without a sense of normality our feeling of continuity as well as our ability to plan for the future would be weakened” (Misztal 2001:313).

As this research has shown, the prospect of major disaster is disruptive to the predictability they experience that is reinforced by the typical progression of day-to-day life.

The relationship between disaster preparedness and ontological security is not entirely new. Harries (2008) for example, theorizes that a need to prepare for potential disasters, such as flooding, conflicts with people’s need for a sense of safety particularly in the context of home. This research, however, shows the pervasive belief in the ability to reproduce routine patterns of action on a day-to-day basis, and ultimately the ability to recreate an illusion of continuity interferes with actions of preparedness for disaster. It also shows that the traditional conception of disaster preparedness reflects this need for continuity through the seamless connection between temporal points in disasters. Disaster preparedness reveals an inherent tension between the need to create a sense of safety and predictability, versus a fear of risk. A failure to prepare has a home in this conflict, rather than the personal qualities of the seemingly unprepared public.

The power of knowing a disaster could potentially arise in a particular place at some point in the future creates the illusion of an ability to control the risks of disaster, which also creates space for blame. This has been the case with the imprisonment of Italian earthquake scientists, the perceived blameworthiness of Hurricane Katrina victims, and disdain for those thought to be ambivalent about risk and thus deserved of negative consequences. Aside from issues of continuity, these sentiments also arise from the largely safe conditions inherent to developed societies. There is a major tension between the fear that risks produce, the need for safety, and the necessity of creating a life that is routine and predictable. While the intersection of these conflicts presents problems for action for people, it also reflects the discussed theoretical issues with the enactment of disaster preparedness as it is currently prescribed.

Disaster management and scholarship can benefit from the findings in a few ways. First, the placement of blame on the public for a lack of preparedness is counterproductive. This disposition only furthers the divide between institutions and the public when they really should work together to produce disaster ready communities through collaboration, as well as the use of existing resources and skills in inventive ways (see Baker, forthcoming for example). Second, scholars need to ask what disaster preparedness means in different societal contexts as there are likely diverse perspectives by type of event and culture in which a person is situated. For example, preparedness

likely takes on a different meaning in New Orleans, Louisiana for a hurricane, than for Southern California and earthquakes Or, it might have divergent theoretical implications in China and Iran where infrastructure and experiences of social reality are different than in the context of this study.

Ultimately, this paper advocates for new approaches to vulnerable publics in ways that avoid blame. Much of institutional disaster management is preoccupied with the control of both the public and risk events in ways that provide fodder for finger pointing, because major disasters are not well controlled. Disaster managers and scholars, however, will continue to grapple with the issues associated with public preparedness as long as people in risk areas continue to experience their everyday lives as safe and predictable. As disaster response tends to be collective and emergent even in the absence of preparedness efforts, scholars and professionals would benefit from a shift in orientation. The institution of disaster management needs to focus less on the control of behavior. As disasters do present threats to people, new tactics in the drive to create more crisis ready environments could incorporate the skills and resources inherent within the everyday lives of people in risk contexts to develop more realistic approaches.

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Appendices

STAFF INTERVIEW PROTOCOL

** The following questions are examples of the types of questions asked during interviews. The exact questions may change based on the flow of the interview.*

Can you describe what you do in your job and the role you have in emergency/disaster planning?

Can you tell me any stories or anecdotes about an emergency event or crisis here at EQU during your time as a staff member?

What did you and others do to respond to this event?

Can you tell me any anecdotes or stories about experiences with earthquakes from your time here at EQU?

What happened?

What did you and others do in response to the earthquake?

Can you provide me with detailed information about [department's] plans for what to do in the immediate event of a large-scale, catastrophic earthquake here at EQU?

Do you have any special role to play if these plans are activated?

How do these plans figure into your day-to-day work?

What activities do you engage in your work directly related to preparing for emergency events/disasters?

Imagine that the earthquake is so large that the typical university functions are greatly disrupted for a long period of time.

What is the worst-case scenario for your department in terms of a large earthquake in terms of the long-term?

Are there any plans in place that address the worst-case scenario?

What would you imagine your department would do to continue its major functions if this were to happen?

What would it mean for your department to be prepared for the immediate effects of a very large earthquake?

What about the long-term affects?

What are your thoughts on difficulties with preparing for an earthquake?

STUDENT INTERVIEW PROTOCOL

** The following questions are examples of the types of questions asked during interviews. The exact questions may change based on the flow of the interview.*

I would like to detail specific actions and patterns of actions that you engage in for two contexts. The first context involve discussing actions you engage in related to preparation for or response to a crisis, emergency event, or earthquakes/earthquake specific preparations; the second will consist of talking about how you interact with the EQU community and what you do on a day-to-day basis.

What are the risks associated with living in Southern California?

Have you ever experienced an earthquake here in Southern California?

Describe what happened and what you did if you experienced an earthquake.

Have you ever experienced a major crisis or disaster here or elsewhere?

Can you describe what happened for each event you experienced and what you did?

What do you do in your daily life to prepare for those risks (e.g., bolt your bookshelves, make plans, keep an earthquake kit)?

Do you consider yourself prepared for a very large earthquake? [Describe risks to interviewee]

Why do you prepare or do not prepare for an earthquake?

Do you have any plans if a catastrophic earthquake were to happen? Please describe these plans in detail.

Have you ever participated in any emergency drills or preparedness activities (e.g., Shakeout, fire drills)? Please describe what you did for each event.

In your view, what resources are available to you living in Southern California and within the EQU community to help you prepare for a very large earthquake?

What is your knowledge of EQU's emergency preparedness plans?

Imagine how you would respond if a catastrophic earthquake struck the EQU community and there was no power, water, cell phones, no gas in your car (if you have one). Talk about what would happen given your level of preparedness, knowledge, and resources.

Do you live on or off campus? If you live off campus, how do you get here? If you live on campus, what is your primary mode of transportation?

Describe how you interact with members of your community (e.g., neighbors, colleagues, faculty, staff) on a day-to-day basis?

How do you communicate with people (e.g., landline, cellphone, computer-based social networks)?

When you experience a disruption to the ways you communicate with people (e.g., lose power, internet goes down), what do you do?

How do you get your information (e.g., news, internet, radio)?

If these sources of information weren't available, what would you do if you needed to get information?

If you have children, do they interact with people in your community (e.g., socialize with specific people at grad housing playground)?

What do you do to feel safe in your day-to-day life?

What are you skilled at?

What are the people around you skilled at?

Who do you turn to in your day-to-day life when you need someone to talk to or help you out when issues or problems come up?

PREPAREDNESS INVENTORY

Participant Pseudonym

Location of tour

Number of people in household?

Age(s)

Gender(s)

Ethnicity

Primary language(s) of household members?

Program of study?

Date of tour

Time tour began

Time tour ended

Other information?

Earthquake Kit? yes _____ no _____

How many? _____

Where located?

Items in kit?

Food Supplies? yes _____ no _____

What kind?

Where located?

Water Supplies? yes _____ no _____

How much? _____

Where located? _____

First aid kit? yes _____ no _____

Where located?

Picture frames over bed? yes _____ no _____

Bookshelves? yes _____ no _____

Secured? yes _____ no _____

Description of bookshelves (sturdy/non-sturdy. Large/small etc.)

Flashlights? yes _____ no _____

How many? _____

Where stored?

Comments

Whistle? yes _____ no _____

How many? _____

Where stored?

Fire extinguisher? yes? ____ no ____

How many? _____

Where stored?

Do you know how to use it? yes ____ no _____

Extra simple tools (wrench, can-opener, etc.)? yes ____ no ____

What tools?

Where stored?

Extra sanitation products (toilet paper, diapers, feminine products)? yes ____ no ____

What products?

Where stored?

Change of clothes and comfortable shoes? Yes ____ no ____

What items?

Where stored?

Preparedness plan? yes ____ no ____

Out of state contact? yes ____ no ____

ICE (In Case of Emergency) on phone? yes ____ no ____

Family meeting location? yes ____ no ____

Please describe family meeting location

Do you know where you should evacuate? yes ____ no ____

Please describe

Do you know what you are supposed to do while on university property, if there is a very large earthquake? yes _____ no _____
Please describe

Describe preparedness plan if applicable

Other potentially useful materials/practices noticed/discussed in tour (e.g., landline/CPR training/stashed money, full tank of gas in car, specialized training, etc.)?

Potential hazards in home/department discussed by participant/noticed on tour?

Other notes
