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Social media and crisis research: Data collection and directions

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ABSTRACT

Social media platforms may be advantageous to those conducting research on communicative responses to crises and disasters, as they allow for the examination of public responses as cataclysmic events unfold. These technologies are also useful for reaching those affected by disasters in a manner not feasible with traditional methods of empirical inquiry. The current essay discusses recent advances in the use of social media for recruiting participants, collecting data, and evaluating audience needs and expectations. This literature is discussed in the context of its implications for scholars, social media managers, and emergency practitioners.

1. Introduction

Crisis and hazard research poses significant procedural obstacles to applied communication scholars. By definition crises are unexpected, non-routine events that often create conditions that are not favorable toward traditional methods of data collection (Seeger, Sellnow, & Ulmer, 2003, Nelson, Spence, & Lachlan, 2009). The nature of these events are exceptionally novel, and their unpredictability often makes data collection difficult at best (Spence & Lachlan, 2010). However, the proliferation of social media has created new venues for examining how individuals and organizations communicate during the crisis lifecycle. Although promising, methods and measures for data collection through social media in crisis situations are unstructured, untested, and there is little agreement on the best means to achieve research goals (Nelson et al., 2009). This essay outlines some practices for data collection, sampling, and analysis of crisis communication data through social media. Advantages and disadvantages to varying approaches are discussed. Although the procedures discussed in this article are not exhaustive, it is hoped that the current essay will initiate ongoing conversations regarding the utility and best practices of using social media to collect data on crises and risks.

As noted by Spence and Lachlan (2010), often access to the physical site of a disaster is restricted. This can be because of dangers associated with the site, clean up, ongoing recovery, or that disaster research is viewed as a secondary issue to more immediate concerns. Thus hazard and crisis research often is conducted long after the trigger event, when conditions have normalized. Because of this, threats such as bias and retrieval error may be concerns (see Tourangeau, Rips, & Rasinski, 2002), and it also limits the methods researchers can utilize in addressing specific questions (Spence & Lachlan, 2010). These and other limitations often open crisis and disaster researchers to criticism. Although using social media to collect data may open up additional criticisms, such as issues of inclusion and exclusion and information fabrication, it also presents opportunities for overcoming these long standing limitations associated with the validity and generalizability of crisis and risk data. The current essay examines issues of data collection, sampling and research design revolving around scholarly and applied research using social media in the examination of crisis communication.

2. Data collection

One of the first obstacles that many disaster and crisis researchers encounter is the inability to generate randomized samples and the subsequent concerns this presents when evaluating the representativeness of the sample. Many crisis and disaster scholars indicate that this is the most common criticism when their research is reviewed. The advantages of the randomization of participants are well documented in the research and statistics literature. Sawilowsky (2007) offers an especially robust defense of the use of randomized sampling. In a series of experiments designed to examine differences in errors, three studies were completed using Monte Carlo simulations with the goal of demonstrating what

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happens in commonly used quasi-experimental designs. Results demonstrated several potential errors that manifest when using non-randomized designs, most notably increases in Type 1 errors. Although it is difficult (and possibly foolish) to argue with the support Sawilowsky (2007) offers for the superiority of randomized designs, his claim that there is no place in science for non-randomized designs may be overstated. As noted by Campbell and Stanley (1963), non-randomized designs are useful in situations where better designs are not feasible (also see Shadish, Cook, & Campbell, 2002). Further, there are often circumstances where it is not logistically possible to conduct a randomized study (Anderson et al., 1980), and it is easy to see how this may be the case in the aftermath of many crises and disasters.

In a series of published studies following Hurricane Katrina, Hurricane Ike, and similar other crises (see Burke, Spence, & Lachlan, 2009; Burke, Spence, & Lachlan, 2010a, 2010b; Burke & Zhou, 2009. Lachlan, Burke, Spence, & Griffin, 2009; Lachlan & Spence, 2007; 2010; Spence, Lachlan, & Burke, 2007a, 2011; Spence, Lachlan, Griffen, 2007; Spence, Nelson, Lachlan, 2010) researchers used non-randomized designs to address questions concerning information seeking patterns following crises, satisfaction with information received, and knowledge gaps across diverse populations. In the cases of Hurricane Katrina and Ike, evacuations were mandatory or strongly encouraged for areas of Louisiana and Texas. Displaced residents initially stayed in campgrounds, hotels, mass care centers, or with strangers. Others found themselves in need of safe housing and were therefore relocated to different parts of the country. As noted by Spence and Lachlan (2010) "in the immediate days following the evacuation the acquisition of an accurate sampling frame was unrealistic; moreover such lists did not exist" (p.98). These studies used self-administered surveys which were given to displaced individuals. Through acknowledging the limitation, specific arguments were made for the value and generalizability of the data. Spence and Lachlan note that "[p]roviding a clear statement of assumptions and limitations allows the reader (especially non-academic audience) to assess the value, merit, significance, and potential utility of findings and conclusions in a non-academic setting" (p. 99). Although the argument for the superiority of randomized designs offered by Sawilowsky (2007) is sound, and possibly the strongest argument offered in social scientific literature, disaster and crisis researchers exist in circumstances where adherence to randomization in research designs is often not possible. Because this criticism is so common to disaster and crisis researchers, it will be addressed throughout this essay.

3. Participant selection, recruitment and research design

Numerous scholars have also argued that it might not be desirable to randomize respondents when collecting data after a disaster. Under such circumstances, researchers should carefully define their target population of interest, and analyze the collected data accordingly (Groves et al., 2004; Spence & Lachlan, 2010). Comparisons between the obtained non-randomized sample and known population parameters may be useful in establishing some degree of confidence in the generalizability of the obtained data. Moreover, physically coming in contact with participants to survey may be difficult due to recovery and response efforts. Social media can provide researchers an opportunity to contact individuals affected by the crisis, without having to come in direct contact, also allowing the researcher to stay out of the way of recovery efforts.

For example, Twitter or Facebook, and other forms of social media could be used to recruit participants to fill out a survey at any point during the crisis lifecycle. However, research on using these methods in addition to advertisements is mixed (Bull, Levine, Black, Schmiege, & Santelli, 2012; Fenner et al., 2012; Ramo & Prochaska, 2012; Ramo, Hall, & Prochaska, 2010), and more research is required. A researcher could post a link asking people who are affected by the crisis to participate. The key advantage to this technique of data collection is speed. Data related to crises, emergencies, and disasters is often collected days or weeks after a non-routine event, forcing the participant to answer questions about prior circumstances, introducing the issue of bias, or numerous other forms of retrieval error (see Tourangeau et al., 2002). Thus, prioritizing promptness of collection over perfect representativeness has several advantages.

The use of social media to collect data at multiple points during the crisis lifecycle may also allow researchers to evaluate the effectiveness of information campaigns in a longitudinal manner. Allowing the researcher to ask questions before the trigger event, during the crisis (if appropriate), and at any point or multiple points after the crisis, may be advantageous in terms of data collection. Although not ideal for all crises, a respondent could be asked questions about emotions, actions, perceptions, and communication at several points throughout the crisis lifecycle, and social media solicitation may be helpful in obtaining data at multiple time points from individuals who may be difficult to reach using conventional means of survey administration.

Although the use of social media may be advantageous in reaching individuals that otherwise would not be able to participate, this does raise the issue of several types of bias such as undercoverage and ineligible units. When elements of the target population are missing from the frame, this is labeled undercoverage and can be a result of the absence of a population list from which participants may be drawn. This issue can be addressed in the limitations section of an article and is a concern, but one that could be argued as relatively minor compared to the value of the collected data.

The presence of ineligible units is a more difficult issue. These are elements that are not part of the target population but either were included in the frame, or have somehow been inadvertently exposed to some kind of intervention or received instrumentation. Because they are not part of the target population, their responses introduce error into the study, and caution must therefore be taken to clearly articulate to participants the requirements for inclusion. A disaster researcher using a survey methodology should be ready to address these threats, control for them to the extent possible during data collection, and acknowledge them in the reporting of the data (for further discussion on survey error see Groves et al., 2004). Ineligible units could appear in crisis and disaster studies where recruitment is conducted through social media in several ways. For example, if the crisis is limited to a specific geographic location, people outside the geographic location may gain access to the recruitment procedure and follow the provided link. Ways to control for this include filtering questions to eliminate ineligible units. Moreover, some survey software allow for the collection of IP addresses and geolocation measures, thus helping the researcher to remove responses from ineligible participants.

Social media recruiting techniques, while not entirely robust to the inclusion of ineligible units, are useful in their capacity for generating snowball samples. Because a list of eligible units is likely not available during a crisis, the snowball sample or respondent-driven sampling (Heckathorn, 1997), can allow eligible participants to recruit other eligible participants. Snowball sampling involves a chain referral sampling method, thus eligible units provide referrals to help the researcher locate additional subjects. Sadler, Lee, Lim, and Fullerton (2010) outline several of the advantages and disadvantages with snowball samples. They note how healthcare researchers often work with populations that are difficult to identify and contact. This creates similar problems to those

endemic to crisis and disaster research. The use of snowball samples reduce the time it takes to collect data, allows for the generation of large data sets quickly, and is relatively cost efficient. As noted by Baltar and Brunet (2012) "in many research fields, online research can be a powerful instrument to improve the scope of the studies, maximize the time-cost trade off and increase the size of the sample" (p.59). Moreover, social networks can aid in the survey distribution not only through snowball sampling but through a form of crowdsourcing. Research has outlined that social networks are an idea way to locate target individuals through short paths, and that social media can increase the speed of communication within and between networks.

4. Drawing inferences from user generated content

The researcher may not interact directly with participants, but rather analyze what affected individuals leave behind publicity. This can be thought of as physical evidence (Webb, Campbell, Schwartz, & Sechrest, 1971) which are pieces of data that are not manufactured specifically for the purpose of comparison and inference but are available for use by the researcher. Physical evidence is probably the social scientist's least used source of data, yet because of its ubiquity, it holds flexible and broad gauged potential (Webb, Campbell, Schwartz, Sechrest, & Grove, 1981). Some social media platforms and Twitter in particular, allow researchers to make inferences about affected populations through unobtrusive observations. For instance, Lachlan, Spence, Lin, Najarian, and Greco (2014a), Lachlan, Spence, Lin, Del Greco, (2014b), Lachlan, Spence, Lin, (2014c) examined issues and emotions expressed during extreme events, specifically Winter Storm Nemo and Hurricane Sandy. In order to gain an understanding of the information that was available to those affected, and of their affective responses to this information, the authors examined Twitter data related to the event. They limited their retrieval strategy to tweets marked with specific hashtags, in order to obtain content generated by those who were likely eligible for inclusion in the study. In the first study the authors used the hashtag #sandy, because it was promoted by both NOAA and FEMA. In a follow up study examining Twitter data after Winter Storm Nemo, the hashtag #nemo was selected due to its promotion by federal level relief agencies and NOAA. The authors also used the "localized" hashtag #bosnow for purposes of comparison, because it was used and promoted by the Boston Globe and other media outlets in southern New England. The population for the study was all tweets which used the selected hashtags. To collect the sample, tweets were collected using TweetArchivist at selected times based on the research questions and the event. TweetArchivist produces exact replications of the most recent hundred tweets at a given collection point, including links to user profiles and active URLs. Although useful for a skim of the available data, TweetArchivist is one of many programs that can be used to collect tweets. Many of these programs also allow researchers to collect a census of all tweets based off several characteristics of search criteria, and allow researchers to examine secondary data that may offer important insights into the responses of those directly affected by the event in question.

Another approach that can be utilized with social media is to change the unit of analysis in order to obtain a randomized sample (See Glendening, 1977; Sawilowsky, 2007; Spence & Lachlan, 2010). If the researcher changes the unit of analysis from the individual to some type of group, (industry, municipalities etc.) randomization may be possible. This approach is contingent on the research question and the defined population of interest. Imagine a researcher is examining how public health departments meet the information needs of the public through social media during an infectious disease outbreak (i. e. the user-generated content), the unit of analysis could be various hashtags on the subject, they could also be cities heavily impacted or even census tracks. Therefore after all the selected tweets from the specific hashtags are obtained, the researcher can randomly select a sample of them. Or, using a different unit, depending on how wide spread the outbreak was; all affected cities or specific census tracks with a specific percentage of cases could be considered the population. Tweets originating from cities or census tracks from the list could then be randomly selected. This does, however, potentially create other problems with composition of the selected groups. Also the researcher must remember to use unit mean rather than individual scores as the statistical unit of analysis (see Blair, Higgins, Topping, & Mortimer, 1983; Spence & Lachlan, 2010).

In their 2014 study, Sutton and colleagues evaluated all Twitter messages distributed by those responding to the 2012 Waldo Canyon fire in Colorado. They argue that retweeting, or "serial transmission," occurred most commonly when the information presented was advisory in nature and clear in sentence structure; by way of comparison, messages deemed more instructive or that were presented using unclear or technical language were less likely to be related among those affected by the fire. Of particular interest, the inclusion of a URL for readers to acquire more information did motivate individuals to retweet the information. Further, information concerning evaluation procedures were among the least likely category of tweet to receive serial transmission. The results also indicate that Twitter messages distributed by public officials during the wildfire were rather one-directional in nature, failed to provide information tailored to specific locations or needs, and were designed for general audiences, much in the same manner as traditional broadcast emergency messages. They counter that under circumstances such as these, it may be advantageous for emergency management agencies to engage in a direct dialog with those affected, something that can be afforded by the use of these interactive technologies.

Secondary data associated with these content reports confirm that the medium can be used as a gauge of audience need, and that the ease and availability of the medium makes it a desirable platform for these exchanges under the circumstances. Sutton, Palen, and Shklovski (2008) add that those affected by a separate wildfire in California were driven to Twitter due to an "information dearth" in terms of readily available and actionable information in more mainstream linear media. Given the timeframe in which the fire took place, many users reported having discovered the medium through word of mouth, then immediately realized its utility under the circumstances. Although this finding is dated at the writing of this essay, it illustrates the perception that Twitter is a valuable and useful medium for obtaining information and engaging in dialogic communication with those responding to the event. In fact, it was immediately found useful to the extent that it drove individuals to adopt the technology. No surprise then different types of social media will continue, in all likelihood, to be a valuable resource for examining audience needs and the effectiveness of response through the examination of its content. By the same token, all of the content scholars listed above express concern that while Twitter may be a promising resource for researchers, the capability of the medium to provide disinformation through serial transmission is cause for alarm. The medium can then be used to evaluate the circumstances under which disinformation is transmitted, rumors spread, and improper behaviors encouraged by examining the diffusion of information through the medium.

Although the studies discussed above provide tangible recommendations for crisis responders, hazards researchers and emergency managers, the larger lesson to be learned is that an examination of social media content may provide valuable insights into the needs of audiences and the extent to which these needs are

being met. An examination of the content generated by both those affected by a given crisis and those responding to it may provide valuable information concerning the needs that can be anticipated under the circumstances and the effectiveness with which government agencies and NGOs utilized this information in their responses.

Of course, this provides only a post hoc analysis of the needs of affected publics, and does little to empirically examine the effectiveness of different message strategies under different circumstances. It is possible, however, to use social media as a recruiting and delivery tool to conduct experimental research on the effectiveness of emergency and crisis messages. Although these efforts may also have to be conducted post hoc, they can be used as a follow-up procedure related to what is gleaned from content studies, and can be used to evaluate audience responses to risk messages, stimuli, and scenarios that are derived from previous cases. Moreover what is learned through studies such as those by Lachlan, Spence, Lin, Najarian, and Greco (2014a), Lachlan, Spence, Lin, Del Greco (2014b), Lachlan, Spence, Lin (2014c), Sutton et al. (2008) and others, can be replicated in experimental settings to help researchers learn more about social media use, or to answer questions that emerged from previous crisis research.

5. Experiments

Empirical research studies in crisis and risk which utilize social media as an experimental tool are slowly emerging. Previous research has primarily yielded case studies which incorporate grounded theoretical approaches that identify commonalities within a specific case or between sub-sets of related case studies (Seeger, 2006). Crisis and disaster situations require effective communication and information in a timely manner, and can be the difference between life and death (Sellnow & Seeger, 2013). Over 70% of online adults use specific social media platforms (Pew, 2014), which can provide and distribute quick and effective communication, making social media an important resource for disseminating information and responding to disasters, thus making it an important area of future crisis research and evaluation.

One area of emphasis for future research is the computer-mediated interaction that can influence preparation and response to the various stages of a crisis. There is a need for both experimental research which examines messaging content and dissemination strategies as well as research replicating and extending findings from previous crisis events. Although the extant literature is only beginning to move in this direction, a small number of studies provide an initial glimpse into these processes.

Vultee, Ali, Stover, and Vultee (2014) made an effective initial attempt using Twitter as a messaging platform during emergencies. They argue that it is still useful to approach new media from a "traditional perspective" of mass media when analyzing their performance in disasters, because users of new media are often users of legacy media as well. The authors investigated how users respond to generated stimuli in the form of Twitter messages by analyzing content and themes from real world examples on Twitter, such as campus security alerts and other realistic social media messages which would be seen on a daily basis. The stimuli were pre-tested to determine what themes emerged from the messages. Proximity of users to the events and authority emerged as the two main themes, and these have been investigated previously (Spence et al., 2005). For social networking sites, users have a developed network of friends, family, and peers to share information with. These networks can be used to disseminate and re-affirm messages, strategies, and plans with a relatively similar network of people. It could potentially be useful to understand how users choose, process, and share relevant information via these networks, especially when taking in account time and the stages of crises. Even though most End User License Agreements of social media websites consider information posted to a website as public, ethical considerations about incorporating this data without written consent arise (See Bowman, 2014). Third-party software or computer scripting could be used to track the demographics of participants to ensure proper privacy measures are taken into account. Microblogging sites are often limited in information quantity because of character limits, but these websites also afford a higher expectation of timeliness compared to other forms of social media. This means that users may get limited information in a singular posting but could be blitzed with many postings in a brief period of time, opening up further investigation into using rapid exchange of information (Sutton et al., 2008). Users can also be re-directed to a secondary page or another form of media which allows for more thorough information consumption.

There are many useful features that computer mediated tools afford users, including enhancing social interaction (Ellison, Steinfield, & Lampe, 2007). Social networks have been shown to influence community attachment and social ties among community members (Kavanaugh, Carroll, Rosson, Zin, & Reese, 2005), and these tools are also useful for those who have low ties to neighbors as well (Bargh & McKenna, 2004). Community members could coordinate evacuation preparations with others before a disaster, or the technology could be used in some fashion after a disaster to check on another's well-being or recovery plans. In addition, a useful feature which influences the ability to use computer-mediated interaction is the ability to draw Global Positioning System (GPS) location coordinates when enabled. This allows first responders to quickly gather information they need and perform whatever operations are necessary. Users affected by the California wildfires took pictures of the fire and reported their location, serving as citizen journalists before media coverage could get to the location of the fires (Sutton et al., 2008), such actions add to the participatory culture of social media during crisis situations. Location based services, and even "check-ins" on social networking sites, offer users the ability to communicate their safety and well-being to others after a crisis unfolds. Although not all users opt-in to allowing GPS data to be shared, these tools are utilized by government agencies in necessary emergencies.

Another useful feature is the relative ease which users can couple social media with other channels of media. Media dependency theory posits that users have a need to obtain information in a useful fashion (Ball-Rokeach & DeFleur, 1976) and typically do so in crisis situations to obtain satisfaction, comfort, and attain specific goals, such as alleviating tension and uncertainty (Seeger et al., 2003). They depend on media for a variety of reasons, and the more dependent a person becomes on media, the more important the media will become for them. Users may utilize social media to get their first alert, but some users are still concerned with reliability of new media forms (Seo, Kim, & Yang, 2009). These users then turn to traditional media forms to gain more information (Lachlan, Spence, & Lin, 2014c). In a crisis, the need for information increases because communication is typically disrupted in some fashion. If information from the most common media form is unobtainable, an individual may be likely to seek out alternative forms of media to gather information about the situation. Hindman and Coyle (1999) found that local radio dependency increased during a flood, and that dependency of the media, perceived unification of the community, and extent of mobilization of volunteers were all related. After Hurricane Katrina in 2005, text messaging and post-evacuation internet usage were important sources of information (Shklovski, Burke, Kiesler, & Kraut, 2010), indicating some shift in the media choices during crises.

Social media has afforded an opportunity for disaster organizations and individuals to specifically tailor communication and information dissemination based on the phases or stages of the disaster itself. Today, relief and response efforts can be performed without ever needing to step foot in the physical disaster location (Palen & Liu, 2007). New disaster content is created and disseminated at a rapid pace via social media (Sutton et al., 2008). Prior to a disaster, communication strategies are deployed by emergency response and disaster management teams attempting to engage in preventative measures for the safety of the public. These messages are usually in the form of alerts and warnings (Tierney, Lindell, & Perry, 2001), and the warning time likely varies depending on the crisis. One area of particular interest for researchers could be examining self-organizing volunteers and crowdsourcing information. Self-organizing during a time of crisis is not a new topic in crisis research (Dynes, 1970; Fritz & Mathewson, 1957; Sellnow, Seeger, & Ulmer, 2002; Starbird & Palen, 2011), but being able to organize in a virtual manner affords new immediacy and timeliness which has not fully been explored. One could argue these organizing groups, developing and relying heavily on social media, stemmed from the earliest disasters which occurred in the social media era. Social media can serve as a forum for those seeking information about the disaster, information on survivors, volunteer and donation information (Hughes, Palen, Sutton, Liu, & Vieweg, 2007; Palen & Liu, 2007). Twitter has been considered as a medium for collaboration, assembling resources, and sharing important information (Starbird & Palen, 2010) and similar extensions can be made into other social media platforms. These quick response groups could offer new recruiting techniques which can capture an affected population before biases can play a role in self-reporting.

As with any research design, there are potential limitations to using social media in experimental research. Outside of the direct realm of crisis research but still examining risk (which can be conceptualized as the pre-crisis stage), Westerman, Spence, and Van Der Heide (2014) found that recency and timeliness played a role in the perceived credibility of Twitter updates. The recency of updates and source credibility relationship was mediated by cognitive elaboration, suggesting that cognitive elaboration is a variable researchers should consider when designing experiments which evaluate source credibility of social media information. The authors also note that there are heuristic cues people utilize when making a judgment about the perceived credibility of social media information. This is a useful consideration to make when disseminating information about a crisis using social media and moreover outlines how answering research questions in an experimental setting can help practitioners use social media once an extreme event manifests. Similar results were noted by Lachlan, Spence, Edwards, Reno, and Edwards (2014). Other experimental research has noted that the number of followers a user has and also the ratio between followers and follows impacts source credibility judgments (Westerman, Spence, & Van Der Heide, 2012); a finding that has implications for the different stages of the crisis lifecycle.

Because disasters and crises vary in development, magnitude, and are inherently fluid and unpredictable, more attention to the impact that immediacy of messages affords users could serve purposeful. In addition, the organizations which facilitate disaster communication are dynamic in nature, and this requires special care and attention when attempting to generalize results (Seeger, 2006). Developing experiments prior to a crisis require vague outlines rather than specifically targeting an approach to be applicable in a variety of situations, but this does not differ significantly from how most theory development occurs in the field.

6. Value of the collected data

There are several arguments and considerations for the researcher concerning the practicality of obtaining crisis data using social media. A more obvious argument in favor of using social media for crisis and disaster data collection is face validity. As noted by Lachlan and Spence (2010) "[o]ne consideration often overlooked in sampling and randomization is the consideration of the population to whom the sample is to generalize" (p. 102). The issue is the value of the data. A nonrandomized social media sample collected after an extreme event, with a specific target population, is more valuable than resorting to the convenience of people not involved with the event, or relying on respondent memories weeks after an event.

It is also the case that those affected by crises and disasters are typically unique subsets of the population, and that they may systematically find themselves in circumstances that have made them vulnerable to the threat in question. Because there is not an available list of these individuals, the most plausible solution is to find them and recruit them to the extent possible. In such instances, taking the available data, given resource constraints, timeliness, and availability might offer researchers with the best options to explore the research questions at hand.

The very vulnerabilities that make these non-randomized samples available may be of interest to those who study crises and disasters. For instance, if one wants to obtain information from those who were unable to evacuate from a flood, a convenience sample drawn from a relief center might be a perfectly plausible place to look. The vulnerabilities that placed the individuals in that relief shelter may make them of greatest interest to the research program. A representative sample drawn from a more generalized population might not get at these vulnerabilities.

Furthermore, an argument could be made that most experimental research does not truly randomize participants. Although outside the scope of this essay, it could be further argued that much of the existing experimental research in the social sciences has been drawn from samples that are more flawed than non-randomized social media samples (see commentary by Bouffard, Bry, Smith, & Bry, 2008). Thus, in the absence of randomization the researcher needs to argue the value of the data, and possibly the strongest way to make that argument is to show how the data can be applied to other disasters and extreme events.

7. Conclusion

This essay has attempted to address some of the criticisms and challenges facing crisis and disaster researchers who are using social media as a tool for data collection. Because crises are by definition non-routine and unexpected, they present a condition that forces crisis and disaster researchers to think outside of the conventions of social scientific inference. Couple that with the fact that methods for collecting disaster and crisis data through social media are highly unstructured and often are not agreed upon. Together these provide a situation where the researcher is required to defend the choices made and be forward about the limitations of those choices.

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