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# How College Campuses Are Using Social Media During Severe Weather Events

A dissertation submitted in partial fulfillment  
of the requirements for the degree of  
Doctor of Education in Higher Education

by

EmmaLe Davis  
University of Oklahoma  
Bachelor of Science in Meteorology, 2009  
University of Oklahoma  
Master of Education in Adult and Higher Education, 2011

May 2018  
University of Arkansas

This thesis is approved for recommendation to the Graduate Council.

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Dr. Leslie Jo Shelton  
Dissertation Director

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Dr. Michael Hevel  
Committee Member

---

Dr. Mary Ramey  
Committee Member

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## **ABSTRACT**

This study explores how college campuses are using social media during severe weather events. This topic surfaced after a tornado devastated Moore, Oklahoma in May 2013 and those displaced flocked to the University of Oklahoma campus after a post made on Twitter went viral prior to an official message being sent out by the university. In order to further explore this topic, a qualitative phenomenological case study was conducted at the following sites: University of Alabama, Missouri Southern State University, University of Oklahoma, and Florida State University. This study included observations of social media posts on Facebook and Twitter on various parameters at each of the sites, document collection of social media and communications policies at each of these sites, and interviews with key people on each campus, including social media managers, university police, and various other student affairs personnel. Through the study, themes emerged, and a series of best practices were identified to allow college campuses to better serve their students during severe weather crisis situations that may impact their campuses.

## ACKNOWLEDGEMENTS

While writing a dissertation, it is easy to feel as if you're on an island completely isolated from the outside world. While there were times where this project became overwhelming, I absolutely could not have done it without the support of my friends and family. From the thankless edits (looking at you Gennie, Christopher, Connor, Meredith, Sara, Melissa, Sarah, Jack, Susie, Bryce, Joe, and Karen) to my Hotz Hall RA Staff who couldn't help but "RA" their boss by asking how my dissertation was going when I should have been asking them about their lives, and my co-workers and supervisors who constantly supported and pushed me to keep working when everything else was working against me. I am also incredible thankful to my committee members for the inspiration and support through this process, in particular, my chair, Dr. Leslie Jo (LJ) Shelton, who was always supportive and encouraging and always pushed me to want more from this process than simply completing the requirements for the degree itself.

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Finally, the "main men" in my life that keep me sane. Taylor, for reminding me of my goals and why I am working on this degree to begin with. Chandler (my rude but gets away with it because he's cute wiener dog), for making sure I never worked too hard and always too time to play. And my Papabear, who was constantly proud of me even when I hadn't really done a whole that that was impressive, but he didn't seem to mind and was proud of me anyways.

## **DEDICATION**

I dedicate this dissertation to all of strong women in my life who have inspired me to be the woman I am today. In particular, my granny who was never afraid to speak her mind and tell it exactly as it was and my momma, who constantly inspired me to treat people with compassion and make the world a better place through my words and actions. The world is less bright without them in it and I think of them every day as I work to not only complete this project, but every day as I interact with those arounds me.

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## **CHAPTER 1: INTRODUCTION**

Chapter one begins with an introduction to the topic explored through this study, as well as some background information on why the topic was chosen. I will provide the problem statement and the purpose of the study, followed by the research questions. I will then explain the significance of the study and give a brief overview of the design and parameters of the study. Finally, I will include the definition of relevant terms of the study.

### **Introduction & Background**

Since its appearance in the early 2000s, social media has drastically changed the landscape of how people interact with one another. Facebook started in 2004, allowing social media to have strong implications for how college campuses interact with students. Moreover, this shift in interaction has altered what students expect in terms of communication and where they are looking for information. Instead of looking to traditional means of communication, such as email or campus websites, students are going to Facebook, Twitter, and other social media outlets to get the most up-to-date information regarding campus happenings. If institutions of higher education do not embrace social media, students could potentially be missing information they need to be successful. This could cause students to turn to unofficial sources for the information, which could lead to misinformation.

Past research has indicated that social media is an effective tool for marketing and recruiting students (Belanger, Bali, & Longden, 2013; Gordon & Berhow, 2009; Howard, 2013; Peruta, Ryan, & Engelsman, 2013; Reuben, 2010), for social activism (Biddix, 2010), and for classroom integration (Berrett, 2013; Perry, 2013). A recent shift in news media has journalists now considering social media posts as official and credible news sources (Olson, 2013; Powers, 2014; Weeks & Holbert, 2013). As a result, college campuses have had to adapt and integrate

social media strategies into their crisis communication plans (Baron, 2009; Coombs, 2008; Dabner, 2012; Daly, 2012; Hufty Dilbeck, 2013). As this phenomenon continues, college campuses must examine how they are using social media to communicate during crisis situations, in particular severe weather events. To date, there is a relatively small amount of scholarly research done in the field of higher education regarding social media usage during severe weather events on college campuses. The research completed thus far involves mostly notification systems (Aschenbrener, 2001; Jackson, 2011; Sherman-Morris, 2009; Stokes, 2013; Wilson, 2013), but very little focus is placed on social media and how it fits into campus notification strategies for severe weather events.

### **Statement of the Problem**

Social media use during severe weather events is still an uncharted area for many institutions. While students are coming to college more integrated into social media, the potential for its use on college campuses has not yet been recognized. In order to increase the effectiveness of social media on college campuses, administrators need to learn how to effectively use social media during non-crisis situations. Once everyday protocols for social media are set up, then plans should be established to figure out how social media can and will be utilized during a crisis situation.

As soon as information is available, it should be shared with students and stakeholders across social media and other notifications systems. Without proper information dissemination, there is potential for the message to be misrepresented, potentially influencing the perception of the stakeholders involved. Institutions of higher education having a strong social media presence is vital. This will eventually be the primary source of information for college campuses and other businesses (Belanger, Bali, & Longden, 2014; Fagel, 2013; Hufty-Dilbeck, 2013; Jackson, 2011;

Kaplan & Haenlein, 2009; Lipschultz, 2014; Liu, Austin, & Jin, 2011; Oh, Agrawal, & Rao, 2013) therefore, administrators need to start planning for this shift immediately.

There is no clear answer for how to engage with students via social media, but it is obvious an institution is doing itself a disservice if they are not using social media to interact with their students. According to Crowe (2011), it is becoming clear that

Social media systems are not going away and neither are disasters, therefore, it is paramount for emergency managers and the profession as a whole to find ways to understand and embrace how social media are impacting their lives and communities (p. 418).

Universities using social media as a valuable tool to their institutions during times of crisis is increasingly important, rather than allowing it to become a foe of the institution.

### **Purpose of the Study**

The purpose of this study is to explore how college campuses have utilized social media to communicate during past severe weather events and how that communication aligned with established social media plans. I am seeking to identify examples of best practices in social media utilization on college campuses. Additionally, I hope to provide recommendations for social media strategies to be implemented into current crisis communication plans.

### **Research Questions**

In order to properly examine the phenomenon of the way college campuses are using social media during severe weather events, I examined the following:

- Research Question: How have college campuses utilized social media during severe weather events on or near campus?
  - Sub-Question: Where does social media fit within overall campus communication plans already in place?

## **Significance of the Study**

This topic emerged as a topic of interest after the May 20, 2013, tornado that passed approximately 10 miles north of the University of Oklahoma's Norman campus. While the campus was not directly impacted by the storm itself, the staff and students at the University of Oklahoma felt the effects before and after the storm. As a result of a series of unofficial Twitter posts, community members were driven to campus to seek shelter. Community members also flocked to campus to seek shelter after being displaced by the storm. After observing this event, I began to look for similar examples of this phenomenon and the implications of the use of social media on college campuses (both official and unofficial). After finding very few, I decided this would be a worthwhile topic to pursue on other campuses that experienced close encounters with severe weather, such as the University of Alabama in Tuscaloosa and Missouri Southern State University in Joplin.

Additionally, after spending time in the literature on this topic, there seems to be very little intersection between social media usage on campus and social media usage during severe weather events. Campuses are clearly experiencing crisis situations and there seems to be literary support that social media is being used during those events (Daly, 2012; Ki & Nekmat, 2014; Liu, Jin, & Austin, 2013; McMurtie, 2015; Oh, Agrawal, & Rao, 2013; Omilion-Hodges & McClain, 2015). However, the amount of literature on university response to severe weather events, which directly impact campuses, or the surrounding areas is very low. In regard to social media usage, there is a great deal of literature on how to effectively manage and utilize it from an outside perspective (Avvenuti, Bellomo, Cresci, La Polla, & Tesconi, 2017; Davis III, Deil-Amen, Rios-Aguilar, & Canche, 2012; Freberg, Saling, Vidoloff, & Eosco, 2013; Goolsby, 2010; Jin, Liu, & Austin, 2014; Lipschultz, 2014; Ono, 2014; Reuben, 2010; Yadav & Rahman, 2016).

However, there is an apparent hole in the literature about how to manage and utilize social media during a crisis. With respect to the information available, this study has potential to fill in some of the gaps in the literature on the how social media is being used on campuses during crisis situations as well as draw the parallels between generic campus crises and severe weather events in particular.

### **Conceptual Design**

There are certain events in our lives that change the way we see the world around us. In order to understand the process of meaning making, one looks to qualitative research to interpret how certain phenomena have changed us (Patton, 2015). Events such as a tornado or other severe weather phenomena directly impacting one's environment, like a college campus, can drastically impact one's world. I have used qualitative research to gain a better understanding of what was going on during the moment when messages were relayed (or not relayed) so that I can improve social media plans for the future, to better serve students, faculty, and staff.

Additionally, during a severe weather event, those experiencing the crisis at hand will be experiencing multiple realities about what is happening to them. According to Guba and Lincoln (1994), in the constructivist paradigm, there can be multiple realities connected by a shared experience – in this case, severe weather events on college campuses. These realities are relative to the person and can change as the situation changes (Guba & Lincoln, 1994).

In order to investigate the college campuses are utilizing social media during severe weather events, I conducted a phenomenological study to fully dive into the social aspects of severe weather. Phenomenology aims to examine how people perceive certain events, allowing researchers to gain a deeper understanding of the phenomenon they are studying (Van Manen, 1990) and to gain a deeper understanding of the world around them (Patton, 2015). It strongly

emphasizes experience and interpretation (Merriam, 1998) and seeks to expose how people involved with a particular behavior or event perceive their involvement with that specified phenomenon (Patton, 2015). Phenomenology focuses on shared experiences (such as severe weather events) and comparing them across similar settings (such as college campuses) to identify main components of the prescribed phenomenon (Merriam, 1998). Since campus crisis situations, in particular severe weather events, can have an emotional effect on those who experience them, I found that a phenomenological component of the study was very important in understanding the shared experiences of the participants in order to get a better perspective on why they might have behaved in a certain way (Hancock & Algozzine, 2006). To gain a deeper understanding of social media usage during severe weather events, this study explored the experiences of those who have been involved with these scenarios.

To accomplish this, a qualitative, collective case study was conducted to examine specific events in which social media was used to communicate during severe weather events. Case study research is very beneficial in understanding a phenomenon in its natural context, enabling the researcher to find a great deal of detail (Hancock & Algozzine, 2006). Qualitative case studies are designed to get at the meaning of a phenomenon through studying it from all sides and looking at all aspects of the case (Merriam, 1988). The uniqueness of perspectives gathered in a case study are paramount to understanding the phenomenon behind the study itself (Stake, 1995). Further collective case studies allow context to be collected from several viewpoints, not just one, making it more holistic in nature (Merriam, 1988). As such, this study selected several individual cases that are all related to one another through the common themes of severe weather events on college campuses and their social media usage surrounding the event.

The basis for using a case study research to investigate this topic is rooted in Bromley's (1986) idea that case studies are characterized by their ability to "get as close to the subject of interest as they possibly can" (p. 23). As there is currently very little research on this particular topic to date, going into as much depth as possible is very important with this study in order to provide the most detail when reporting findings. This case study was nonexperimental in nature as the events had already taken place at the time of the data collection and there were no opportunities to change what happened, rather a desire to understand the events for the phenomena that occurred (Merriam, 1988).

### **Parameters of the Study**

During this study, I served as the primary investigator on the case. This involved collecting and analyzing all the documents as well as conducting and analyzing all of the interviews. Due to having an undergraduate major in meteorology, I had to pay special attention to avoid making any generalizations about the weather events observed through this study that could not be made by someone without an advanced knowledge of how severe weather forms and evolves. Additionally, because of the relatively endless nature of social media, I had to be intentional about gathering data directly related to the selected cases while filtering out extraneous social media posts.

In order to get a comprehensive picture of how college campuses are using social media during severe weather events, I selected institutions that have experienced high profile natural disasters in the time of social media to obtain a broad perspective on current social media practices. The events that were selected are all relatively similar given the study's definition of severe weather (tornadoes and hurricanes, which are capable of producing tornadoes), as well as to give some consistency to the types of message that should be disseminated as informed by the



literature review. The specific institutions that were studied are the University of Alabama (April 27, 2011 tornado), Missouri Southern State University (May 22, 2011 tornado), the University of Oklahoma (May 20, 2013 tornado), and Florida State University (September 2016 Hurricane Hermine).

To begin this study, I observed the social media presence of each of these campuses identified. When analyzing social media feeds, screenshots were taken so that observations could be made offline and captured for ease of analysis and to preserve the data in case something gets deleted. Data collection included documents describing any available protocols or guidelines for campus crisis response and communications. Additionally, I interviewed key people on college campuses who work with social media initiatives at the identified universities. In order to record information with regards to the documents, copies of selected institutions' social media plans were requested in multiple versions to gauge any changes that might have been made from the time of crisis to present format; however, each institution told me those documents were not sharable externally. Many interviewees referred me to public documents such as guidelines for crisis situations and codes for communication on campus. After the social media analysis was completed, I conducted interviews social media managers, university police, and other campus officials across each of the campuses selected to get a better understanding of the documents collected. During interviews, each of the participants was audio recorded and then audio files were transcribed.

Once all documents were collected and interviews had been conducted and transcribed, the data was hand analyzed for common themes. When developing themes, I looked for information on the way social media was used by individuals and their institutions, how this use aligned with the predetermined plans (if applicable), and what could or should be done

differently in the future. From there, I developed a codebook to begin organizing the data for analysis and interpretation.

With the purpose of confirming the validity of this data, I followed Lincoln and Guba's (1985) list of eight concepts that should be addressed in order to enhance the trustworthiness of a study: prolonged engagement, persistent observation, member checks, triangulation, hypothesis testing, peer debriefing, proper presentation of findings, and the audit trail.

The findings of this study are presented in a written, comparative structure (Yin, 1994). Since the same case study is being conducted across several different events, the written report follows the events individually while reporting the findings, but then compares the different events in the analysis and discussion stages to obtain a full picture of the data collected as well as the similarities and differences between each of the individual events.

### **Definitions of Terms**

There are several terms within this study that need to be properly defined before reviewing the literature related to the study as well as the methods for which the study will be completed. In this section, I will define those terms so that they can be better understood moving forward.

#### **Social Media**

In an attempt to narrow data as well as remain consistent throughout events being studied, social media will refer to the social networking websites Facebook and Twitter. While there are several other social media platforms available, I felt these two were the most appropriate for this study as they are the most popular in terms of the number of users, have been around the longest, and were the most prevalent through the cases this study explored.

## **Campus Crisis**

Campus crisis is defined using Zdziarski's (2007) definition: an event that is typically abrupt, that interrupts the normal operations of an institution's educational mission and poses a threat to the safety of the students, faculty, staff, property, or reputation of the institution.

## **Severe Weather Events**

Severe weather is defined by the National Severe Storms Laboratory (NSSL) as thunderstorms, tornadoes, flooding, lightning, hail, damaging winds, and winter weather (NSSL, 2016) as well as hurricanes according to the National Hurricane Center (NHC) as they can contain any combination of the previously mentioned phenomena (Ocean Service, 2017). For this study, severe weather will be defined as tornadoes and hurricanes in order to properly narrow down the field of research.

## **Summary**

Social media is still an evolving technology for many institutions. While students are coming to college more integrated into social media, the potential for its usage on college campuses has not yet been fully recognized. Strategies on how to effectively use social media during non-crisis events on their campuses are essential to navigating this platform in a crisis situation.

Information should be shared with students and stakeholders across social media and other notifications systems as soon as it is available. Without proper information dissemination, there is potential for the message to be misrepresented, potentially changing the perception of those involved. Having a strong social media presence is vital for organizations and institutions of higher education. Social media will eventually be the primary source of information for college campuses and other businesses; therefore, administrators need to start planning for this shift immediately.

## **CHAPTER 2: LITERATURE REVIEW**

Chapter two begins with an overview of social media, with special attention given to the two biggest platforms, Facebook and Twitter, as well as some of the features of the two as it pertains to tracking and sharing information. Next, an overview of the student population across college campuses in the United States today. Because of the high number of millennial students on college campuses, an overview of millennials will be provided as well as a description of the way they are using technology and social media in their daily lives. Following the discussion on social media and college students, an overview of the way college campuses are using social media, in particular the way college campuses are using social media for recruitment, in student activism, in the classroom, and during campus crisis situations.

After introducing the concept of campus crisis, the topic will be explored and a baseline for campus safety will be established. Campus alert systems will then be discussed, and particularly the way they are being utilized in regard to alerting the public to campus crisis situations. The unique role in which social media has begun to play in campus alert systems will also be explored, specifically, an examination of the difference between official and unofficial sources. Following the discussion on social media and campus alert systems, a case study will be reviewed regarding the way college campuses have used social media during crisis situations in the past at Tulane University during Hurricane Katrina, Virginia Tech University during the campus shootings of April 2007, and the University of Alabama during the Tuscaloosa tornado outbreak in 2011. Next, a closer look will be taken on severe weather events on college campuses including some definitions of different types of severe weather. Finally, the concept of using social media to inform students of severe weather events on college campuses will be explored, including past cases and implications for this activity.

## **Overview of Social Media**

Social media websites such as Facebook and Twitter have gained popularity in large part because of young, educated users who are eager to connect to others around them, both personally and professionally (Dijick, 2013). Facebook and Twitter are web-based applications that let people build a public profile and connect to those around them based on common interests or real-life connections (Boyd & Ellison, 2008). Perhaps the most unique feature of social media is the way users can “friend” others virtually (Boyd & Ellison, 2008). Before the appearance of social media, social connections between people was limited by the logistics of practical communication (Charlesworth, 2014). Since social media has become easily assessable, these restrictions no longer apply as long as users have access to an Internet-ready device such as a laptop or smartphone (Charlesworth, 2014). These websites have created a two-way method of connection with users and have recently added a “fan page” component where users can connect with businesses and organizations as friends as well (Boyd & Ellison, 2008).

Once connections are made, users can post messages and media to their pages to share with their followers (Lipshultz, 2014). A good way to think of social media is a web presence where users can create their own content but do not have full control of the website itself (Charlesworth, 2014). Posting can have varied reach, which is the term for measure of distribution or views of the content and depending on the number of followers or whether not the post is promoted, the one who created the post will pay to have the post appear as a sort of advertisement so that it can have a greater reach (Lipschultz, 2014). Sometimes posts on social media spread so quickly that they are considered to have gone “viral” (Lipshultz, 2014). Content that has gone viral is content that is shared very quickly and widely due to an interest in the

material (Lipschultz, 2014). Some of what Lipschultz (2014) cites as viral events that have shaped the development of social media are:

- Celebrity gossip and entertainment news source TMZ reported that Michael Jackson had died in 2009 before it had been verified by any other traditional sources.
- Rapper Wyclef Jean was able to raise over 1 million dollars via Twitter following the 2010 earthquake.
- Teenage singer Rebecca Black uploaded a video to video-sharing website YouTube in 2011 and it had been viewed over 150 million times within the first day it was posted.
- Actor Charlie Sheen joined Twitter in 2011 and had acquired over 1 million followers within 24 hours.

Because of the quick nature of the way information is shared via social media, it has the potential to completely define our culture (Lipschultz, 2014). Social media is completely different from other types of online uses because of a high level of interactivity (Lipschultz, 2014). The fundamental characteristics of social media is the engagement developed by linking individuals with one other through online technology (Lipschultz, 2014). Users can link virtually with celebrities and organizations, therefore making the identity of the user important to the rate at which content is shared and generated (Lipschultz, 2014).

Social media has completely changed the way we relate to one another (Reuben, 2010). Sites like Facebook and Twitter allow users to have a sense of community even when they are not physically with anyone else (The New Media Consortium, 2007). “Social media links people together in ways that resemble traditional feelings of connection, belonging, loosely defined

memberships, exchange of feelings and ideas, and the reporting of experiences and actions” (Davis III, Deil-Amen, Rios-Aguilar, & Canche, 2012, p. 3), which causes a blurred line between the online world and the real world (Davis III, Deil-Amen, Rios-Aguilar, & Canche, 2012).

While it is difficult to know how many people are actively using social media, social media usage is clearly growing worldwide (Boyd & Ellison, 2008). In 2014, “56% of Americans ages 12 and over have a profile on a social networking site” (Ono, 2014, p. 10). As of 2012, two of the most prominent social media sites were Facebook and Twitter (Davis III, Deil-Amen, Rios-Aguilar, & Canche, 2012). Moving between these social media sites is simple and allows users to maintain several profiles and post on multiple sites at one time (The New Media Consortium, 2007). Additionally, as of 2012, 40% of social media users are not actively posting on social media, rather they are logging on to read the information other users post (Davis III, Deil-Amen, Rios-Aguilar, & Canche, 2012) and are logging on several times throughout the day to do so (Ono, 2014).

Social media relies heavily on the concept of “crowdsourcing,” which is the ability to ask people in an online setting to create information surrounding a particular event, topic, or within a centralized location (Freberg, Saling, Vidoloff, & Eosco, 2013). Social media sites can also ask users to participate in a variety of tasks as a form of crowdsourcing, including validating pictures as well as providing validation for what other users have posted about a particular event (Yadav & Rahman, 2016). Crowdsourced information can be obtained by directly asking for information or by using geolocation tools to detect a user’s location and monitoring their messages for keywords pertaining to reason for crowdsourcing (Freberg, Saling, Vidoloff, & Eosco, 2013). Crowdsourcing literature discusses two types of user-generated information: *opportunistic* information, where users share data as they go about their daily lives, and *participatory*

information, where users share data as requested at their own will following some sort of prompt or invitation (Avvenuti, Bellomo, Cresci, La Polla, & Tesconi, 2017). Crowdsourcing allows those combing through social media for information the ability to find information quickly and straight from those who are potentially involved in an event of interest (Avvenuti et al., 2017). Additionally, while crowdsourcing information has been shown to be valuable, Yadav & Rahman (2016) estimate that content is created by about 1% of users, validated by 10% of users, and used by the other 89% of users.

## **Facebook**

Initially only for college students, Facebook is a social networking site where users create their own profiles and connect to people they know, communicate with others, and share their interests (The New Media Consortium, 2007). According to Facebook founder and CEO Mark Zuckerberg, Facebook is a way to share information with one's social group (CIPR, 2012). With 1.59 billion users in December 2015 (Yadav & Rahman, 2016), Facebook is not only one of the largest of the social networking site, it has become a space where people can have meaningful interactions with people from around the world (Noor & Hendricks, 2011).

One of the key philosophies behind Facebook is the concept of sharing (Dijick, 2013). Users can create profiles with pictures, interests, contact information, and anything else they care to share with other users (Dijick, 2013). Personal profiles allow people to have an individualized presence on the network where they can make connections and share content with those connections (CIPR, 2012; Noor & Hendricks, 2011). On average, Facebook users have 130 friends, or connections where two people can mutually acknowledge their connection and display their friendship on their profiles (Noor & Hendricks, 2011). These connections are not only restricted to those people they know offline, but they can also be to anyone else who has a



Facebook profile (Noor & Hendricks, 2011). For example, prior to coming to college, students will add each other on Facebook so that they can interact with one another before coming to campus and to get to know more about them online before meeting them in person (Noor & Hendricks, 2011). Connection via social media also makes staying in touch while not in similar geographical locations much easier than it has been in the past before this technology existed (Dijick, 2013).

Brand profiles are similar, but are generally managed by organizations, brands, and celebrities – all with the intention to allow others to connect with them to share information (CIPR, 2012). Brand profiles are particularly useful for businesses and organizations as they allow their moderators to create a unique marketing opportunity because of the seemingly personal connections created with followers (Reuben, 2010). The interface for personal profiles and brand profiles is similar: both create a connection and allow their users to share information with those they are connected (Reuben, 2010). Facebook also has groups that allow people to come together around a particular idea or cause to share ideas, raise awareness, or show unity of some kind (CIPR, 2012).

Another feature of Facebook is the option to “like” things that users are interested in (Dijick, 2013). The “liking” feature was added to Facebook as a way for users to not only share things they appreciated, but to be able to instantly like it to express their immediate endorsement (Dijick, 2013). As a result of this feature, many organizations, brands, and companies have created profiles that users can like as a means to get updates from their organizations through Facebook (Dijick, 2013).

Facebook also allows users to tag other users or locations in their posts (Lipschultz, 2014). Tagging technology ranges from tagging others in pictures, including a specific location,

or adding people to a post to gain their attention (Lipschultz, 2014). The latter is a very prominent means of sharing pertinent information in a way that is more likely to be seen than posting the information alone (Lipschultz, 2014). When using a smartphone, location information is automatic unless turned off in privacy settings through what is referred to as “geotagging” or a computer software that automatically detects location (Lipschultz, 2014).

In October of 2014, Facebook released a new feature called “Safety Check” (Avvenuti et al., 2017). Safety check gathers location data of Facebook users relative to natural disasters or other mass emergency situation and prompts them to answer whether or not they are safe relative to the event detected (Avvenuti et al., 2017; Luis, Sugianto, & Syamsul, 2014). Safety check information is then immediately pushed out to the user’s network of friends as a notification that they are safe (Luis, Sugianto, & Syamsul, 2014). Since the Safety Check feature uses the user’s last login to detect their location information, it is possible the user is no longer in the area affected by whatever situation is taking place, therefore there is an option to indicate that the user is outside of the affected area (Luis, Sugianto, & Syamsul, 2014).

## **Twitter**

Emerging in 2006 (Dijick, 2013), Twitter is a combination of instant messaging and blogging where users share short messages (140 characters) with their followers and in return see the updates of the people and organizations they opt to follow (The New Media Consortium, 2007). In 2012, Twitter reported having 500 million registered users, 88 million of which are active at least once a month (Dijick, 2013). Twitter co-founder Evan Williams defines Twitter as more of an information network than a social network (Charlesworth, 2014) and describes it as “a sort of adrenalized Facebook” (Dijick, 2013, p. 70). Over the last decade “tweeting” has meant multiple things from sending instant messages to followers to sending out short bursts of a

stream of consciousness thoughts (Dijick, 2013). Called the “SMS of the Internet” (Dijick, 2013, p. 70), Twitter offers an at-a-glance update of happenings all over the world (The New Media Consortium, 2007). Twitter also gives users the opportunity to share what is important to them with their followers in real time (The New Media Consortium, 2007). During many breaking events, such as crisis situations, Twitter users will “live tweet” their eyewitness updates for their followers to see (Lipschultz, 2014).

Users also can retweet information that they find interesting or relevant (Lipschultz, 2014). With Twitter, users can easily retweet a post from another page to one’s own page (Lipschultz, 2014). Additionally, users can copy and paste the message to a tweet of their own and include the letters “RT” in front of the message (Lipschultz, 2014). Users also commonly modify the information from a particular source on their own page and indicate with the letters “MT” (modified tweet) or post partial information from a post and indicate this using the letters “PRT” (partial retweet) (Lipschultz, 2014).

Information on Twitter has grown in unprecedented ways and in 2010, the Library on Congress archived all Tweets since the launch of Twitter in 2006 (Lipschultz, 2014). The quality of these tweets is up for debate and largely based on who is sending the messages (Dijick, 2013). The volume of messages sent out on Twitter is what sets it apart from other platforms: from 27 million tweets per day in 2009 to 290 million tweets per day in 2012 (Dijick, 2013).

## **Hashtags**

Twitter and more recently Facebook utilize “hashtags” which make it easy for users to track certain events by placing a “#” symbol in front of the topic of discussion that will connect their posts to other posts using the same hashtag (Dilbeck, 2013). In 2008, Twitter introduced the concept of “trending topics” where users could group posts together by topic, using the hashtag

technology (Dijick, 2013). When the number sign is placed in front of a word or phrase on Facebook or Twitter, it creates a hyperlink that serves as a filtering device to track topics related to the hashtag (Lipschultz, 2014). Hashtags enable users to connect a singular post to the larger feed to which it pertains (Lipschultz, 2014).

Hashtags have the potential to be very powerful during an event that is creating a lot of traffic online (Lipschultz, 2014). For example, on April 15, 2013, two bombs went off at the finish line of the Boston Marathon, killing and injuring many runners and spectators (Lipschultz, 2014). Because of the amount of chaos going on during the event, journalists turned to social media to find information about what was happening using the hashtag #BostonMarathon, which had already been set up by race organizers to share photographs and news about the event before the bombings occurred (Lipschultz, 2014). Once the bombing took place, official posts were drowned out eye-witness accounts of what had happened on site (Lipschultz, 2014). Because of the open nature of social media, the news media were unable to verify the information reported on the #BostonMarathon hashtag, leading to misinformation being shared by official sources such as CNN and ESPN that were then retweeted and shared because of their perceived credibility during the incident (Lipschultz, 2014). For example, an incorrect tweet stating the suspects in the bombing had been taken into custody was retweeted nearly 14,000 times (Lipschultz, 2014).

### **Social Media Growth**

Social media use is growing at an impressive rate. As of January 2009, Facebook, the largest social networking website, reported 175 million users, over twice the population of Germany (Kaplan & Haenlein, 2009). Additionally in 2009, 10 hours of videos were uploaded to video-sharing website YouTube every minute (Kaplan & Haenlein, 2009). On photo-sharing

website Flickr, 3 billion photos are accessible to the general public as of 2009, which is ten thousand times the number of objects in the world-famous Louvre Museum's collection (Kaplan & Haenlein, 2009). With those numbers, social media has clearly become more than just a trend and is an important source of information dissemination (Kaplan & Haenlein, 2009).

Social media is also growing rapidly as a channel through which people communicate during crisis situations (Fagel, 2013). According to a survey conducted by the Red Cross in 2010, one in five respondents said they would use social media to get help during a crisis situation if 9-1-1 was not available (Fagel, 2013). Additionally, 69% of respondents would like to see emergency responders monitor social media and send assistance based on their findings through that platform (Fagel, 2013). While emergency response monitoring is not currently happening, social media does give emergency managers an additional set of options when determining the way to communicate with the public during a crisis situation (Fagel, 2013).

### **Overview of College Student Population**

In 2014, college enrollment was 20.2 million students (National Center for Education Statistics, 2016). Of the 20.2 million students, 55.6% are white, which is down over the last decade (National Center for Education Statistics, 2016). Females make up 57%, which is up slightly over the last decade (National Center for Education Statistics, 2016). The concept of a "traditional student" is rapidly changing as the demographics of college campuses across the nation change (Williams, 2014). Studies suggest that the majority of students currently enrolled in high school, identify themselves as a member of a minority population, which could have some implications for the makeup of incoming college classes in the near future (Alex-Assensoh, 2016). Many of the students coming to college for the first time are first generation college

students, which presents a need for additional preparation to help those students be successful once they get on campus (Williams, 2014).

Students between the ages of 18-24 are also increasing on campus (National Center for Education Statistics, 2016). Traditionally aged students make up 40.0% of the US college population, which is up from 35.5% in 2000. As such, this younger demographic is coming to college more connected and technologically advanced than generations before them (Davis III, Deil-Amen, Rios-Aguilar, & Canche, 2012). Known as “digital natives,” these students come to campus expecting to be stimulated by the technology around them, including by their university (Davis III, Deil-Amen, Rios-Aguilar, & Canche, 2012). Unlike previous generations of students before them, the incoming class of students has never known a world without the Internet and as a result are more connected digitally than ever before (Davis III, Deil-Amen, Rios-Aguilar, & Canche, 2012). What does this mean for postsecondary campuses as students become more connected, and dependent on technology?

### **Millennial Generation**

The millennial generation (those born after 1982) is different than any generation that has preceded them (Howe & Strauss, 2000). They are more educated, diverse, and affluent than those preceding them (Howe & Strauss, 2000). They are drawn to group activities and are dedicated to being on the cutting edge of technology and modern discovery (Howe & Strauss, 2000). They are aware of the issues around them but tend to turn a blind eye in order to maintain ignorance to the negative surrounding them (Howe & Strauss, 2000). Additionally, they have been raised to a standard that is better than that of their parents and tend to lead very privileged lifestyles (Howe & Strauss, 2000).

Millennials are known for their constant need to be connected and in communication with the world around them (Barnes & Lescault, 2011). According to a 2011 Nielsen report, this generation has an active online presence and receives large numbers of electronic communications every day (Barnes & Lescault, 2011). To those who do not belong to this generation, millennial connection to technology has “reached the point of obsession” (Berrett, 2013) and non-millennials do not understand this phenomenon. The millennial communication style varies greatly from previous generations and presents a large set of challenges as they come into contact with older generations who are not accustomed to their differences (Barnes & Lescault, 2011). The current struggle between millennials and older generations comes from the millennial need to receive information via electronic sources and the reluctance of previous generations to engage with these technologies (Jackson, 2011).

As “digital natives,” this generation has grown up accustomed to spending more than eight hours per day engaging with technology (Davis III, Deil-Amen, Rios-Aguilar, & Canche, 2012). This has drastically changed the way their brains have developed, shaping their communication and work skills (Davis III, Deil-Amen, Rios-Aguilar, & Canche, 2012). Digital natives are more likely to multi-task because technology makes it simple and like second nature to them (Davis III, Deil-Amen, Rios-Aguilar, & Canche, 2012).

Because of the millennial generation, technology dependence on campus has changed drastically over the years. Consider that “as of January 2013, there were more devices connected to the Internet than there were people on Earth” (Ono, 2014, p. 10). In addition to owning multiple devices, many millennials are so dependent on their technology that they cannot remember the last time they were without their devices (Ono, 2014). Access to these items is easy: 93% of teenagers say they have computers at home and 80% say they own smartphones

(Powers, 2014). The Internet and modern technology have become indispensable parts of the lives of the millennial generation and that trend is not expected to subside any time soon (Wilson, 2013).

### **Millennials and Social Media**

As these millennials are coming to campus, they are typically living away from home for the first time and are turning to social media in order to stay connected to those back home and in turn, end up aiding in their transition to college (Noor & Hendricks, 2011). With the evolution of technology over the years, the perception of the way students are interacting with their universities has also evolved (Kuh, 2003). Higher education professionals are reporting a trend of millennial students utilizing social media to engage with their institutions (Junco, 2014). Since many students are on social media, college administrators are finding success in engaging their students online (Junco, 2014). In addition to the observations of college administrators, research also suggests that students are highly involved with social media (Heiberger & Harper, 2008). In 2007, college students visited Facebook more than any other page on the Internet (Heiberger & Harper, 2008). Nearly half of all Facebook users are college students, and these students are spending upwards of thirty-five hours communicating online each week (Heiberger & Harper, 2008).

Social media usage varies across millennials on college campuses, from highly engaged to not having social media accounts at all (Junco, 2014). In 2013, Vercic and Vercic surveyed 1,000 college students on their social media habits. They found that 91.5% of the millennial students surveyed reported they use some form of social media, while 2.6% reported that they do not use social media at all. About 90% surveyed said they use social media every day (Vercic &



Vercic, 2013). Many students report using some form of social media for at least 30 minutes every day (Noor & Hendricks, 2011).

Social media platforms are constantly changing, giving users new ways to engage with others (Heiberger & Harper, 2008). The online involvement of millennials has increased exponentially since 2004 when Facebook was started (Heiberger & Harper, 2008). According to Vercic & Vercic (2013), 56% of students reported they were connected in some way via social media to their institutions. If any of the collegiate uses of social media are in fact engaging students, then it is possible that these measures could have an impact on the quality of college student experiences (Junco, 2014). Engagement can also be seen in the lopsided comparison of the number of logins into campus portals (email, Blackboard, etc.) versus logins into social media sites (Heiberger & Harper, 2008).

According to a survey of 377 undergraduate students conducted by Heiberger and Harper (2008), there is a positive relationship between student social media use and engagement on campus. The relationship between social media use and engagement can lead to an increase in retention by allowing students to interact with one another, exposing them to extracurricular opportunities, and connecting them to faculty and staff members (Heiberger & Harper, 2008). Instead of allowing online relationships to replace their face-to-face relationships, students are using social media to supplement their campus engagement (Wagler & Cannon, 2015).

### **Social Media Use on College Campuses**

According to Kaplan & Haenlein (2009), when the name of any institution of higher education is Google searched, social media pages will populate in the top five results of the query. Social media has taken college campuses by storm as it extends beyond personal use (Benedict, 2014). Research shows that most universities use some form of social media to

promote their institution (Belanger, Bali, & Longden, 2014). In 2008, 61% of college campuses reported using some form of social media whereas in 2010, 95% of college campuses reported some form of social media use (Barnes & Lescault, 2011). Many campuses make social media use top priority in their communications plans (Brazington, 2012). Some professors use social media in their classes to add another layer of engagement with their students (Berrett, 2013).

According to Jackson (2011), many college students are avid consumers of social media and integrate it into their lives in a variety of ways. Students feel social media is a necessity to function as a society and use these networks to connect with others around the world (Jackson, 2011). According to Dijick (2013), students who do not have access to social media often report that they are not invited to events or updates on important happenings on campus. Social media is a developing means for connecting and engaging with universities, so colleges should be using social media to share information and connect with others (Hufty-Dilbeck, 2013). This type of connection has impacted the way colleges interact with their students, alumni, and other stakeholders (Jackson, 2011). Social media is a very powerful tool that most students will interact with as they see fit, making it absolutely critical that universities are utilizing it properly (Dabner, 2011).

Social media presents a unique way to interact with followers that goes beyond passive distribution of information to more active means of linking more information, sharing media such as pictures and videos, and the eliciting responses from the distribution of information (Lipschultz, 2014). These interactions are the foundation for the success of social media (Lipshultz, 2014). Because of the way students and their parents have come to rely heavily on social media, college campuses have a responsibility to their stakeholders to effectively communicate via these outlets (Hufty-Dilbeck, 2013). “The focus of social media is the people,

the most important resource and product of higher education” (Mandviwalla, 2013, p. 53) and this phenomenon has thrown college administrators for a loop since its usefulness has become prominent on campuses (Brazington, 2012).

Higher education stands to gain a lot of social media use (Hufty-Dilbeck, 2013). Since social media is free, campus administrators have no reason to refrain from using these strategies to promote campuses and campus services (Benedict, 2014). Facebook, according to several studies, is the most predominant social media site used by college campuses since the launch of fan pages in 2007 (Benedict, 2014). By creating a campus fan page, college campuses can communicate directly with their stakeholders (Benedict, 2014). Using social media, institutions can “create up-to-the-minute notices of commencement programs, homecoming events, class reunions, and live chat sessions as well as campus emergency alerts” (Davis III, Deil-Amen, Rios-Aguilar, & Canche, 2012, p. 4).

The primary use of social media on college campuses is for marketing and distributing information about the institution to its students and stakeholders (Belanger, Bali, & Longden, 2014). Additionally, social media is used on college campuses to encourage student interactions, engagement, and involvement with the institution and campus life (Belanger, Bali, & Longden, 2014). Social media is also used to strengthen campus communities, both on campus with current students, and off-campus with alumni, parents, and other important stakeholders (Belanger, Bali, & Longden, 2014). When used effectively, social media has the potential to help college campuses reach larger audiences than ever before and to maximize their impact on the world around them (Davis III, Deil-Amen, Rios-Aguilar, & Canche, 2012).

## **Social Media in Student Recruitment**

Social media is inherently social by name, but also through this medium, people are able to connect with and follow the interactions of people they know (Crowe, 2011). Social media facilitates online word-of-mouth interactions that are viewed as “unbiased, reliable, and trustworthy” (Belanger, Bali, & Longden, 2014, p. 15) because of the trust associated with the connection to the source (Crowe, 2011). Social media connections typically share many of the same values and understandings making the information they share that much more valuable and trustworthy (Hughes & Tapia, 2015).

One of the most effective ways to recruit students is showing them what it is like to be on campus (Davis, Deli-Amen, Rios-Aguilar, & Canche, 2012). Before students start planning campus visits and filling out applications, 75% of prospective students begin researching institutions they are interested in on social media (Benedict, 2014). Through social media, institutions can share videos, blogs, and advertisements quickly across the Internet (Reuben, 2010). Blogs, for instance, have been particularly successful in student recruitment (Davis, Deli-Amen, Rios-Aguilar, & Canche, 2012). By providing current students an ability to show what it is like to attend a particular institution through writing about their own experiences (Davis, Deli-Amen, Rios-Aguilar, & Canche, 2012). Blogs are able to demonstrate a level of student engagement on campus that few other sources can replicate (Davis, Deli-Amen, Rios-Aguilar, & Canche, 2012). Another area in which student engagement is observed is through comment sections, where current students can answer questions from prospective students and start engaging them online before they come to campus (Wilson, 2013).

Recruitment costs can get very steep for some institutions (Benedict, 2014). Since social media is free, the concept of using this tool for recruitment has become more and more appealing

to campuses (Benedict, 2014). College campuses are reporting that 30% of their social media efforts are geared toward recruiting students (Reuben, 2010). Social media allows recruiters to make contact before college fairs and allows them to continue the conversation after contacts have been made (Wilson, 2013). Since college students are already accustomed to using social media in their daily lives (Benedict, 2014), “admission officers use social media in their work to connect with students where they are most comfortable” (Wilson, 2013, p. 53).

### **Social Media in Student Activism**

Another important component of campus engagement involves civic responsibility (Biddix, 2010). Over the years, students have turned to social media for civic engagement, leading to a new world of campus activism online (Biddix, 2010). An example of the power of student activism through social media is the Kony 2012 campaign (Terrachina-Hartman, Bienkowski, Meyers, & Kanthawala, 2014). The Kony 2012 movement, a documentary about the Invisible Children, went viral via social media, gaining 100 million hits in under a week (Terrachina-Hartman, Bienkowski, Meyers, & Kanthawala, 2014). This could be attributed to the fact that 37% of all Internet users between the ages of 18 and 29 use online resources as a means of political and civic engagement (LaRiviere, Snider, Stromberg, & O'Meara, 2012).

Studies show that political practices on social media have a mobilizing effect on students, empowering those who might not have participated otherwise to get involved (Velasquez & LaRose, 2015). While working through their personal identity development, students can express themselves through social media (Macafee & De Simone, 2012) and enhance their confidence levels with their own political viewpoints through social media, which leads to more participation on campus (Velasquez & LaRose, 2015). Through sharing causes or information

important to them, other students can engage with those posts through commenting on or “liking” the content (Velasquez & LaRose, 2015).

By engaging in social media, students can enact social change in ways never possible previously (LaRiviere, Snider, Stromberg, & O'Meara, 2012). Through taking student activism online, students are able to step beyond the traditional boundaries of former activism such as time constraints, distance, and organizational issues (Biddix, 2010). Students can see what is going on at other campuses through social media to get ideas for mobilizing their local efforts and informing their practices (Biddix, 2010; Leonard, 2014). Students are also communicating with one another more effectively, as they are more likely to check their Facebook messages than their emails (Biddix, 2010). Students are using social media to assemble for events and protests very quickly (Macafee & De Simone, 2012; Samuels, 2011). In the past these types of events would take several days to organize (LaRiviere, Snider, Stromberg, & O'Meara, 2012) and would rely on word-of-mouth communication as well as mass media to gain momentum (Samuels, 2011). Students today are able to share information about an event with hundreds, sometimes thousands of people in seconds via social media (Samuels, 2011).

Students are finding enhanced engagement through participating in online student activism (Biddix, 2010). Through social media, students are gaining immediate support for their causes online and find others who have similar views and values (Biddix, 2010). Students are sharing unacceptable conditions on their campuses with the rest of the world online to spur conversation and reform across the nation in higher education (Leonard, 2014). Students are distributing articles that are important to them with others in order to create a conversation online with other students (Biddix, 2010). Students are also connecting to others that they may not have connected with otherwise in order to better engage with their cause and their campus (Samuels,

2011). Students are also finding connections to their causes off-campus, creating an environment of community engagement (Biddix, 2010).

### **Social Media in the Classroom**

Students come to campus plugged in (Wilson, 2013), meaning the Internet and social media are “central and indispensable elements in the lives of American teens and young adults” (Wilson, 2013, p. 52). Once students arrive on campus, college administrators have captive audiences online that they should be paying attention to in order to better engage them (Wilson, 2013). If administrators are able to use the tools their students are already accustomed to integrating into their day-to-day lives, they have limitless potential for engagement (Wilson, 2013). Using these tools, faculty and staff are able to easily distribute information about events, deadlines, and campus resources to their students in a format they are familiar (Wilson, 2013).

The use of social media in the classroom has potential to improve relationships between faculty and students by providing an additional layer of engagement and collaboration that has been unmatched elsewhere (Ralph & Ralph, 2013). Integrating academics into a student’s social media brings a level of knowledge is brought into their personal lives that might not have been there before (Ralph & Ralph, 2013). Academic integration also adds an additional social component to learning, which can be very beneficial because students today are collaborative learners (Ralph & Ralph, 2013).

In the aftermath of Hurricane Katrina, many schools were left in such a devastated state that students were unable to return for the semester (Ralph & Ralph, 2013). Many students transferred, while others were able to continue with distance education through their host institutions (Ralph & Ralph, 2013). Many institutions worried their students would not return if they had to turn them away for a semester (Ralph & Ralph, 2013). Southern University at New

Orleans (SUNO) got creative with their social media usage after Hurricane Katrina and implemented an online curriculum that incorporated social media (Ralph & Ralph, 2013). Once students were able to return to campus, SUNO faculty and staff continued to engage their students through social media and are continuously improving social media based learning today (Ralph & Ralph, 2013).

### **Social Media Use During Campus Crisis**

From the body of research on college student use of social media, students are clearly going online to obtain information they desire (Liu, Jin, & Austin, 2013). This is particularly true during times of crisis on campus as social media usage increases during these situations (Liu, Austin, & Jin, 2011). Students are seeking out information online, however campus crisis communication plans are not matching this phenomenon (Daly, 2012). Students are also using social media specifically for communicating during natural disasters according to a study conducted by Yadav & Rahman (2016) where a social media audit was conducted during various natural disaster events. Of the 85% of campuses that report having campus crisis communication plans, only 59% of these plans address social media (Daly, 2012). Having social media in a campus crisis communication plan is crucial since students are beginning to expect more from campus social media usage during crisis situations (Daly, 2012). Incorporating this technology into communication plans is inevitable despite slow adoption (Alexander, 2014).

Crisis situations happen so quickly that mass media cannot always keep up (Austin, Liu, & Jin, 2012). Social media and other online sources are so quick to provide information, and as a result students will turn to these platforms because they can get information online that they are unable to get elsewhere (Austin, Liu, & Jin, 2012). Particularly during times of crisis, information online is considered to be the very reliable and timely (Liu, Austin, & Jin, 2011).



Because users are able to create their own content on social media, they become engaged in the reporting process of a crisis situation (Wagler & Cannon, 2015). Many students report finding out about crisis situations via social media than going elsewhere to get the full story (Austin, Liu, & Jin, 2012) and then fill in any gaps in information not addressed in official sources (Oh, Agrawal, & Rao, 2013). According to a 2013 case study analysis on data from Twitter following three crisis situations, Oh, Agrawal, & Rao (2013) much of the information put out by unofficial sources are rumors and have not been fact checked. Through an analysis of their accuracy, the ambiguity found in the information posted led to misinformation that later was corrected by an official source (Oh, Agrawal, & Rao, 2013).

Additionally, according to a multi-subject interview study conducted by Austin, Liu, & Jin (2012), students were more likely to read links to breaking news stories if a friend posts them to their social media pages. They also trust information posted by their connections online over more traditional media (Oh, Agrawal, & Rao, 2013). Trust creates a unique opportunity for engagement with students as universities can enlist them as allies (McMurtie, 2015). Through this partnership, universities can create a sense of trust with their own accounts by reposting relevant information from students during crisis situations, which leads to an increase of information pertaining to the crisis situation communicated to the public (McMurtie, 2015).

The communal aspects of social media allow college campuses to create an open dialogue about the incident and find ways to engage students as the situation unfolds (Ki & Nekmat, 2014). Administrators can make students can feel like they are a part of what is happening on campus by giving value to their voices (Ki & Nekmat, 2014). Social media allows users to form communities during crisis and encourages participation, openness, and connectedness (Omilion-Hodges & McClain, 2015). When students log on to social media sites

during a crisis situation, they are motivated by their need to connect to a group of other people experiencing the same things in order to make sense of what is going on (Ki & Nekmat, 2014).

### **Campus Crisis**

“We cannot in good conscience ignore the possibility that something unthinkable can occur in our midst that will disrupt the lives of our students, faculty, and staff” (Zdziarski, 2007, p. 336). Campus crises over the last decade have had a severe impact on the way our colleges and universities are functioning as a whole (Rodriguez, 2008). Zdziarski (2007) defines a campus crisis as an event that is typically abrupt; that interrupts the normal operations of an institution’s educational mission; and poses a threat to the safety of the students, faculty, staff, property, or reputation of the institution. Crisis situations will impact the whole organization (or will have the potential to do so) as opposed to smaller incidents that can typically be resolved quickly and are very localized (Coombs, 2012). Crises can also result in negative consequences for an institution in the aftermath, such as financial losses, reputational issues, and loss of productivity (Coombs, 2012).

Since the mass shooting at Virginia Tech in April of 2007, college campuses across the nation have been called to examine their emergency procedures and reevaluate what makes their campuses safe (Galuszka, 2008; Gulum & Murray, 2011; Harwood, 2007; Hollingsworth, 2007; Madden, 2015; Rasmussen, Johnson, & Midwestern Higher Education, 2008). Evaluating campus safety is a somewhat daunting task as the term “safe” is relative and can mean very different things to different people (Rasmussen, Johnson, & Midwestern Higher Education, 2008). Many campuses strive to “create an environment that is as safe as possible given the realities of the external environment and the inability to control the actions of all people at all times” (Rasmussen, Johnson, & Midwestern Higher Education, 2008, p. 6). A focus on campus

safety has required campus administrators to shift their efforts on promoting prevention as a means of campus safety more openly than has been observed in the past (Rasmussen, Johnson, & Midwestern Higher Education, 2008).

Crises defy expectations of the norm, which causes people to react emotionally based on perceived experience (Coombs, 2012). If a stakeholder of an institution perceives some kind of crisis, then the university has a responsibility to act accordingly (Coombs, 2012). While crisis situations are unpredictable, it is wise for institutions to do some sort of planning in the event the worst happens (Coombs, 2012). Many institutions will adopt some sort of crisis management plan that they test regularly in order to prepare their constituents for a crisis situation, should it happen in the future (Coombs, 2012). Responses during a crisis situation tend to be very public because of the number of stakeholders involved, so plans should be thoughtfully executed, revised as needed, and well-communicated to personnel (Coombs, 2012).

Crisis situations can be looked at in three parts: pre-crisis, crisis, and post-crisis (Coombs, 2012). In the pre-crisis phase, emergency managers are tasked with defining the way they will detect a crisis, the way to prevent one from happening, and the way to prepare in the event a crisis does happen to occur (Coombs, 2012). The crisis phase consists of a trigger that causes the event to take place, the way it is recognized by staff and stakeholders, and the way it is contained and resolved (Coombs, 2012). The post-crisis phase takes place once the actual crisis event is deemed to be over, but the institution is still dealing with the aftermath (Coombs, 2012). Post-crisis also includes reputation management, crisis plan revisions, and any follow up that needs to take place (Coombs, 2012).

News about a crisis situation is able to reach the eyes of stakeholders quicker than ever before because of advancing technologies (Coombs, 2012). As a result, stakeholders tend to

make many crisis situations into more of a catastrophe than they actually are (Coombs, 2012). Technology has made it impossible for institutions to locally isolate the event as many stakeholders will turn to the Internet to voice their concerns with what is going on with the event (Coombs, 2012). Rapid sharing can cause misinformation to be spread very quickly, posing a threat to the institution's ability to handle the crisis itself, not to mention causing damage to the institution's reputation (Coombs, 2012). Campus crisis managers not only have to be prepared to identify warning signs of a crisis, enact the crisis management plan, and protect their institution, but also be prepared to communicate what they are doing every step of the way to those invested in the institution (Coombs, 2012).

### **Campus Crisis Communication**

According to the Clery Act of 1990 (amended in 2008), universities have an obligation to provide students and staff with timely warnings of any event that may compromise the safety of their institution (Han, Ada, Sharman, & Rao, 2015; Kanable, 2009). As a result of the Clery Act, college campuses are required to deploy emergency notification systems to alert their students in the event of a campus crisis (Han, Ada, Sharman, & Rao, 2015; Galuszka, 2008). Technology is a critical part of the ability to notify students, faculty, and staff of any immediate danger, no matter their location (Harwood, 2007). After the shootings at Virginia Tech University, a much heavier focus has been placed on campus notification systems (Galuszka, 2008; Gulum & Murray, 2011; Harwood, 2007; Hollingsworth, 2007; Madden, 2015). Many companies that provide notification services experienced extreme growth after the Virginia Tech tragedy (Galuszka, 2008) and campuses that already had some form of notification systems before the incident underwent improvements after the tragedy (Murr, 2007).

During a crisis situation, there is no one correct way to distribute information to students and stakeholders (Daly, 2012, Jackson, 2011). In order to ensure that students are getting the message, delivery of information across several different mediums is important (Daly, 2012). According to a survey of students, faculty, and staff after a campus shooting in 2010, Stephens, Barrett, & Mahometa (2013) found that receiving a message across multiple different platforms made stakeholders more likely to examine the message more closely. Students are almost always connected via their cell phones, tablets, and computers; therefore, recognition of the communication methods their students are using and sending the messages to them in those ways is essential (Jackson, 2011). Having an understanding of the audience and their needs is important in ensuring that students are receiving pertinent information (Veil, Buehner, & Palenchar, 2011).

According to their survey, Stephens, Barrett, & Mahometa (2013) found that communications have to be timely and accurate, creating challenges for those responsible for sending them out. During a crisis situation, the need for information is high, but so is the amount of information flowing about an incident (Hughes & Tapia, 2015; Lachlan, Spence, Lin, Najarian, & Del Greco, 2014). Since uncertainty during a crisis situation is high, stakeholders will look for information from any source that will report it (Spence, Lachlan, Omilion-Hodges, & Goddard, 2014). Negative news such as a campus crisis will spread more rapidly than positive news, so it is especially important that campuses are proactive in sharing information (Rudat & Burder, 2015). The sooner an institution can release a statement about an on-going crisis, the better it will be received (Spence, Lachlan, Omilion-Hodges, & Goddard, 2014). Additionally, according to a 2014 study where participants were asked to respond to messages from the Associated Press (AP) in comparison to messages from an unnamed sources found that

stakeholders are more likely to react positively to information if it comes straight from a reputable source rather than somewhere else (Spence, Lachlan, Omilion-Hodges, & Goddard, 2014).

Redundancy is important in order to guarantee that a message is getting distributed to as many people as possible (Jackson, 2011; Stephens, Barrett, & Mahometa, 2013). Anything that is posted to one social media website should be posted on any other social media sites used by the institution in order to reach the maximum number of followers (Hufty-Dilbeck, 2013). Social media should also be linked to campus-wide texting systems so that when something is posted online, it goes out via text to students as well (Jackson, 2011). As students begin to receive the message, they will share it via their social media, expanding reach of the message (Jackson, 2011). Additionally, important messages from official sources could possibly get buried in all of the other messages (Spence, Lachlan, Lin, & Del Greco, 2015). Because of this information overload, “finding useful ‘tweets’ during a major event is a little like panning for gold in a raging river “(Alexander, 2014, p. 725).

After Hurricane Sandy made landfall in 2012, Spence, Lachlan, Lin, & Del Greco collected tweets containing the hashtag “#sandy,” a search yielding nearly 30,000 tweets over a three-day period (Spence, Lachlan, Lin, & Del Greco, 2015). After analyzing these messages, finding relevant information from official sources became very difficult as the storm progressed (Spence, Lachlan, Lin, & Del Greco, 2015). Government agencies that started using this hashtag, but were only doing so in order to create a one-way communication pattern to push out information, not to gather information about what was being said by others on the same hashtag (Spence, Lachlan, Lin, & Del Greco, 2015). From the results of this study, sending out messages multiple times was recommended to create more opportunity for their followers see pertinent

information (Spence, Lachlan, Lin, & Del Greco, 2015). Spence, Lachlan, Lin, & Del Greco (2015) also found it important to understand that by using a hashtag in messages, there is the possibility the public believes their messages are being monitored and believe that agencies have the responsibility to do this monitoring (Spence, Lachlan, Lin, & Del Greco, 2015).

Redundancy has the potential for some issues (Stephens, Barrett, & Mahometa, 2013). According to survey data, Stephens, Barrett, & Mahometa (2013) found that with redundancy comes the potential for people to become desensitized to the messages being sent out, making it possible that they would be unaware whether any type of danger was present. In order to combat this, organizations have to be strategic about their emergency communications (Stephens, Barrett, & Mahometa, 2013). Additionally, redundancy tends to create issues with the networks on which these messages are delivered, causing some messages to fail to send. An unfortunate reality of technology during a crisis situation is that it will sometimes fail because of high volume of people checking campus websites during a crisis situation (Veil, Buehner, & Palenchar, 2011). Technology is a very powerful tool when it comes to pushing out communications quickly but requires resources to work properly (Garnett & Kouzmin, 2007). To safeguard against technology failure, universities need backup plans for getting information out (Jackson, 2011).

### **Alert Systems**

In the aftermath of the Virginia Tech Massacre, many people were quick to criticize the lack of alert systems in place to keep students safe on that fateful day (Rasmussen, Johnson, & Midwestern Higher Education, 2008). As a result, colleges across the country quickly upgraded their emergency notification systems since email alone was not enough to sufficiently notify everyone (Murr, 2007), as the majority of students do not check their email as often as faculty

and staff believe they do according to an online survey of students and staff conducted by Butler & Lafreniere in 2010. Many of these upgrades looked at adding phone calls and text messages to their systems (Murr, 2007), paving the way for what we are seeing today: social media as a means of communication during campus crisis events (Fagel, 2013).

Studies conducted on the best way to communicate with students post Virginia Tech showed that students found landline technology to be outdated and ineffective (Rasmussen, Johnson, & Midwestern Higher Education, 2008). Additionally, students at that time showed strong preference for communications via text, whether that be email or Short Message Service (SMS) communications (Rasmussen, Johnson, & Midwestern Higher Education, 2008). The Virginia Tech massacre was also the first time that social networking accounts were listed as a preferred method of communication during a crisis event (Rasmussen, Johnson, & Midwestern Higher Education, 2008).

Every format will not work for every student when looking at emergency alerts; therefore, it is important to send messages out across multiple platforms (Villano, 2008). As stated previously, the millennial generation spends a great deal of time attached to their phones, so SMS is a logical choice for format of emergency alerts (Villano, 2008). Students are often already overloaded with the number of messages they are receiving day to day, so institutions should be considering how necessary a campus alert message is before they send it out in order to keep students from ignoring messages in the future (Misner, 2014). Many students feel that alert systems are overused by campus emergency managers and admit to not reading them as a result (Misner, 2014). The messages that are being sent out must contain relevant information for the students and must be worded in such a way that catches their attention and alerts them to potential danger (Misner, 2014).



In early implementation stages of emergency notification systems, many campus administrators struggled with what kind of messages to send and when to send them (Villano, 2008). In a 2008 study, Villano interviewed several campus officials at Brandeis University near Boston, MA, regarding the implementation of a campus alert system in the short time following the shootings at Virginia Tech. This behind-the-scenes study of the implementation group for this system found it productive to think of alert systems as fire alarms in the early stages because “A fire alarm doesn’t tell you a lot about what is going on. Fire alarms say one thing: ‘Get out!’ We needed to think of our campus emergency system in the same way” (Villano, 2008, p. 2). Because a campus crisis situation can be very hectic, being as succinct as possible when sending out messages is very important (Villano, 2008). Messages such as “shelter in place” are able to speak volumes about what students should do with little detail or confusion (Villano, 2008).

There is some discourse about what campus office should be the primary controller of campus alert systems (Villano, 2008). On some campuses, the strategic communication or similarly named offices take responsibility for messages sent out (Villano, 2008). However, a few institutions that give the responsibility to sending out alert messages to the campus police as they are generally the first campus entity to know about danger to the campus population (Villano, 2008).

One shortcoming of these systems that campus emergency managers have identified is that many alert systems require students to opt in to receive messages, which can be somewhat problematic (Villano, 2008). In order for alert systems of this nature to be successful, “you need close to 100 percent enrollment and participation rates” (Villano, 2008, p. 2). Villano (2008) defines “enrollment rate” as the number of students loaded into the back end of the emergency alert system software who will receive messages once sent out. According to Fagel (2013),

Virginia Tech had a notification system in place at the time of the mass shooting, but not enough people had opted in. A few months after this event, over 4,000 students, faculty, and staff registered for the system to receive alerts (Fagel, 2013). One way to increase the number of students enrolled in these types of systems is to create a branding strategy surrounding the alert system to get students bought into the concept of the system and what it offers (Villano, 2008). Through proper branding, students will learn to expect communications through these official channels and trust the information being released (Villano, 2008).

The way a university communicates these messages with the public will have a lasting impact on their institutional reputation with students, stakeholders, and the mass media (Jackson, 2011). Institutions have to be viewed as a trustworthy source of information from the beginning in order to manage a crisis situation (Stephens, Barrett, & Mahometa, 2013; Veil, Buehner, & Palenchar, 2011). The best way to manage an on-going crisis is by communicating quickly, honestly, and openly about the crisis as it develops as well as communicating information from sources that are equally as credible (Lachlan, Spence, Lin, Najarian, & Del Greco, 2014; Veil, Buehner, & Palenchar, 2011).

Signing up for campus alerts is not limited to only those on campus – friends, family members, and the general public are able to sign up for alerts for a particular institution, causing the system to take longer to push messages out to everyone (Mahon, 2016). Additionally, campuses are seeing a trend of news media signing up for these alerts as well and breaking stories from the campus alerts being sent out to keep people safe during a crisis situation (Mahon, 2016). Many systems boast being able to send 10,000 messages in a minute, but that only goes so far when additional users are clogging up the system, keeping those who need to get the alerts the quickest from receiving them (Mahon, 2016).

These systems have the potential for incorrect information to go out when facts are not checked thoroughly (Mahon, 2016). For example, on November 28, 2016, an active shooter was reported on the Ohio State University campus (Mahon, 2016). Students, faculty, and staff took the message they received to be fact, but in actuality the assailant was not a shooter, rather was armed with a knife, and had actually been killed before the first alert went out to the majority of campus (Mahon, 2016). Some of these alert systems will take a substantial amount of time to reach everyone, which could pose a real threat for those on campus as they might be putting themselves at risk without realizing the danger that exists (Mahon, 2016).

### **Social Media**

According to Snoeijers, Poels, & Nicolay (2014), “universities have the moral duty to protect their students from harm by effective communication in a time of crisis” (p. 647). Through staging a campus crisis scenario online for students, faculty, and staff to participate in, Snoeijers, Poels, & Nicolay (2014) found that one of the most effective ways to communicate to campus stakeholders is through social media. While getting the message out to every student on campus may not be realistic, an institution should do everything they can to notify as many students as possible (Hollingsworth, 2007; Kanable, 2009). Campuses should be employing several strategies: emails, text messages, phone calls, loudspeaker announcements (Murr, 2007), and most recently: a social media presence.

Social media has completely changed the way college campuses are able to communicate messages during crisis situations (Coombs, 2008; Dabner, 2012). Students are no longer receiving information in a one-way format, rather a real-time, synchronous platform where they can engage directly with an official source in ways that were never there before (Stephens, Barrett, & Mahometa, 2013). Breaking news has taken on a whole new meaning as “members of

the media and bystanders with access to a camera phone are likely to feel an obligation to share breaking news with other members of the community and/or their interpersonal networks” (Spence, Lachlan, Omilion-Hodges, & Goddard, 2014, p.125). During a crisis situation, “the public expects organization to provide accurate information instantaneously” (Jackson, 2011, p. 6). One of the reasons social media is such a valuable tool to college campuses is because of how quickly information can be circulated quickly (Alkhas, 2011). Social media creates a sense of immediacy because

in the age of the Internet and social media, the ‘truth’ about a campus incident – that is, the narrative that everyone believes is the true account of what happened – often is not a factual rendering of what occurred. It is, instead, the story first propagated on websites like Facebook and Wikipedia, and then ‘catches on’ (Olson, 2013, p. 1).

When something is posted on social media, the message will spread rapidly, regardless of accuracy (Crowe, 2011; Olson, 2013). Administrators have to manage this phenomenon in order to stay ahead of mass media (Jackson, 2011). If an institution does not put out an official message, journalists will use the unofficial sources via social media to break the story instead of waiting for the official university information (Jackson, 2011). According to Lipshultz (2014), journalists are encouraged to have social media accounts for work, separate from their personal accounts. Journalist use social media for breaking news stories and this has become normalized part of their standard practices (Liu, Austin, & Jin, 2011; Franklin, 2014). Nearly 60% of journalists report that they would report rumored information found on social media if they could confirm it through an independent source (Ki & Nekmat, 2014). Traditional news media sources will encourage their audience to use social media to add to the conversation by sharing pictures, videos, and commentary from the scene that they can use in their dissemination (Wigley & Fontenot, 2010).

A proactive crisis communication plan is important to ensuring that social media communications is effective (Hufty-Dilbeck, 2013) and these plans must be revised and revisited regularly (Veil, Buehner, & Palenchar, 2011). One of the best ways to figure out the way to incorporate social media into the distribution of breaking news on a college campus is to conduct a drill of a campus crisis or event and deploy social media strategies in this drill (Baron & Philbin, 2009). In order to effectively use social media, a plan must be in place for who will update these sites, what messages will be responded to, and who will respond to those messages (Daly, 2012).

### **Overview of Social Media Use During Campus Crisis**

As technology advances, the number of people who report online sources as their preferred source of information and news increases (Austin, Liu, & Jin, 2012). According to a series of interviews conducted by Agozzino & Kaiser in 2014, nearly 25% of 18- to 25-year-olds uses social media to get their news. Additionally, people under 30 cite the Internet as the most important news source of information (Alexander, 2014). During times of campus crisis, Hufty-Dilbeck (2013) calls social media the most effective measure for getting information disseminated out to students quickly.

Students are going online not only to engage with others, but also to build communities with those around them (Goolsby, 2010). Because of these communities, students are inclined to turn to those communities in times of crisis because they have already established a sense of trust (Goolsby, 2010; Omilion-Hodges & McClain, 2015). Without detailed information in the wake of a campus crisis situation, rumors will begin to circulate (Agozzino & Kaiser, 2014). Through interviews conducted on the social media habits of college students and the way that relates to their news consumption, Jin, Liu, & Austin (2014) found that if someone is already an active

social media user, they will find the information posted on those outlets to be more reliable than traditional news media. As a result, in the event of a breaking crisis situation, institutions must be social media as a means of distributing information (Jin, Liu, & Austin, 2014).

There has been a paradigm shift within the last decade that has influenced considerable changes to the way news is distributed (Alkhas, 2011). According to a survey conducted by Weeks & Holbert in 2013, since 2009, the number of users logging on to social media sites to check the news has grown by 50%. During a crisis situation, “the first news will often come through social media” (Baron & Philbin, 2009) as it is much faster than traditional media (Houston et al., 2015; Westerman, Spence, & Van Der Heide, 2014). The general public are more likely to learn about a major event from social media than traditional press releases from an organization (Olson, 2013).

If an institution is not the first source to make a statement about a crisis situation, someone else will beat them to it (Agozzino & Kaiser, 2014). The message that surfaces first will likely spread very quickly via social media networks (Agozzino & Kaiser, 2014). As a result, public relations departments of many organizations are forced to create jobs dedicated exclusively to searching all of the major social media websites for newsworthy events and will break stories before mass media is able to break their own via social media (Alkhas, 2011). Additionally, stories that would take several hours to break are now made public through social media in minutes, creating a major sense of urgency for organizations (Alkhas, 2011).

Institutions must be the first to deliver information about an unfolding crisis situation so they can confirm the accuracy of information being communicated (Zielinski, 2013). In order to be first, institutions of higher education need to have plans in place for the way social media will be deployed during a crisis situation (Agozzino & Kaiser, 2014). They should have a pre-

established following before a crisis occurs so that their students, faculty, staff, and family members of each of these groups will know to trust the information presented on social media (Agozzino & Kaiser, 2014).

### **Official vs. Unofficial Sources**

Social media has the potential to create a lot of information surrounding an event (Spence, Lachlan, Lin, & Del Greco, 2015). While information via social media has become more trustworthy, almost anything could end up online (Tapia & Moore, 2014). Some messages on social media hold more credibility and relevance than others – largely depending on the source of the message (Palen, Vieweg, Lu, & Hughes, 2009; Stephens, Barrett, & Mahometa, 2013). When quantifying credibility as it relates to media, Lipschultz (2014) states that credibility is directly related to the trust and believability of the message being published. This is dependent of the source as well as the content of the message (Lipschultz, 2014). If the content has both credibility of source as well as verified information, it is believed to be more credible (Lipschultz, 2014).

In order to determine what information is the most valid, understanding the distinction between official and unofficial sources is important (Fagel, 2013). Many official emergency management sources, such as the Federal Emergency Management Agency (FEMA), the National Weather Service (NWS), colleges and universities, and a variety of sources directly connected to the communications department of any organization, will send out a message during a crisis situation as a one-way communication method intended to supplement other forms of notifications being sent out (Stephens, Barrett, & Mahometa, 2013). Sometimes official sources take longer to send out messages as they are usually bound by laws, policies, procedures,

or other factors that might slow down their communication (Stephens, Barrett, & Mahometa, 2013).

In a crisis situation, users experiencing the crisis will begin live tweeting and posting in real-time on what they are seeing and experiencing (Lipschultz, 2014). This content is referred to as user-generated content (Lipschultz, 2014). While user information may be valuable information, this content not considered to be an official source as the content is being created by users who are not sponsored by or affiliated with official sources (Lipschultz, 2014).

According to Lipshultz (2014), one of the best ways to be viewed as a trustworthy source is by observing previous behavior, including post frequency and accuracy. If official sources are able to send messages regularly about happenings within their organization, their followers will begin to expect those messages from them and will check their pages first when they want to know something (Stephens, Barrett, & Mahometa, 2013). The expectation of information will enable an organization to then get the word out very quickly during a crisis situation as their information will get shared via their personal, unofficial pages, magnifying the effect of their message (Stephens, Barrett, & Mahometa, 2013). Regular information will then reinforce a sense of redundancy about the topic and hopefully amplify correct information being shared instead of false information (Stephens, Barrett, & Mahometa, 2013).

**Social Media Use and the National Weather Service.** In order to gain some perspective on the way social media is utilized during severe weather events, looking at the way the National Weather Service utilizes social media as they are the expert source on weather events in general is important. In September of 2011, the National Weather Service (NWS) started using social media to communicate with the public, as a result of an EF5 tornado went through Joplin, MO, killing over 150 people (Haarstad, 2012). According to focus groups conducted by Haarstad in



2012, the intent of the social media presence of the NWS is to communicate risk of hazardous weather both before the event occurs as well as to provide an avenue to communicate up to the minute information to keep people informed. Additionally, Harstaad (2012) found that the NWS hopes through having an official account on social media, fewer opportunities for miscommunication will exist. Presence from the NWS will help other partners (such as college campuses) in decision-making strategies (Harstaad, 2012).

The majority of observational data used by the NWS is collected by computers (Hyvärinen & Saltikoff, 2010). Through case studies conducted over many events, Hyvärinen & Saltikoff (2010) found that many people within the NWS believe humans provide better observational data, but this belief comes at an increased cost. Some argue the NWS should be taking advantage of user-generated observations on social media (Hyvärinen & Saltikoff, 2010). Since the general public is not trained on weather phenomena, many argue that the information they are reporting is not accurate enough for the NWS to use as direct observations (Cox & Plale, 2011). These observations provide a sense of importance and urgency that cannot be measured by an electronic source (Hyvärinen & Saltikoff, 2010). Additionally, while most social media posts are not typically intended for use as weather data, computer models may miss some observations, making these posts a primary observational source (Hyvärinen & Saltikoff, 2010). The acceptance of these messages could lead to an increase in situational awareness of the general public, which could potentially save lives (Dailey & Starbird, 2014; Hughes & Tapia, 2015).

The presence of the NWS on social media is also increasingly important as many organizations (including college campuses) repost their messages during times of emergency to provide their stakeholders with more information during a developing crisis situation (Houston et

al., 2015; Shih, Han, & Carroll, 2015; Sung & Hwang, 2014; Veil, Buehner, & Palenchar, 2011). When an organization is not the primary source of information, adding hyperlinks to social media posts linking followers to an official source has been shown to make them more effective (Takahashi, Tandoc, & Carmichael, 2015). People are more likely to read an article attached to a social media post than to seek out the information on their own (Takahashi, Tandoc, & Carmichael, 2015). The faster the NWS can release information about a potentially dangerous weather pattern, the sooner other organizations can release information their followers need to stay safer than they would be without knowledge of the unfolding situation (Crowe, 2011).

### **Case Studies of Social Media Use During Campus Crisis**

Unfortunately, when searching for information on campus crises in the available body of higher education literature, a lot of results are returned. As a result, three crisis situations will be examined: Tulane University during Hurricane Katrina in 2005, the shootings at Virginia Tech University in 2006, and the University Alabama during the April 27, 2011 tornado outbreak. The Tulane University case was chosen because social media was new at the time and victims and families found technology during their time of need. The Virginia Tech case was chosen because this tragedy is cited as one of the first cases of social media usage during a campus crisis situation of this scale. The Virginia Tech massacre is also the catalyst for campus emergency notification systems. Finally, the University of Alabama during the April 27, 2011 tornado outbreak was chosen because the event is, to date, the most recent tornado outbreak to impact a college campus. Additionally, because of the recent nature of the event, social media was very prominent and active during the outbreak.

**Tulane University during Hurricane Katrina.** On Monday, August 29, 2005, Hurricane Katrina made landfall on the Gulf of Mexico coast as a Category 4 storm (Lawson,

2005), causing extensive damage from Texas to Mississippi (Potts, 2014). The storm killed approximately 1,500 people who were unable to escape flooding as levees broke after the storm had passed (Cowen, 2007). These floods lasted fifty-seven days and displaced 500,000 people (Cowen, 2007). Information about the safety of those affected by the storm was scarce, so concerned loved ones turned to the Internet to obtain information (Potts, 2014; Westerman, Spence, & Van Der Heide, 2014). Hurricane Katrina is cited as one of the first documented cases for social media use during a crisis event (Hughes & Tapia, 2015). Many of the official informational websites (such as CNN) were very slow to update information because of their concern for fact checking and ensuring the most accurate information possible (Potts, 2014). In order to get out information quicker, many people created entries on Craigslist to let people know they were safe from the storm (Houston et al., 2015; Potts, 2014). Additionally, social media was used to collect donations and help find shelter for those displaced by the storm (Hughes & Tapia, 2015).

Amidst the destruction of the storm, Tulane University, located in New Orleans, LA (Tulane University, 2011), was severely impacted by the storm (Foster & Young, 2005). The campus withstood wind damage from the storm itself, but extensive flooding after a levee failed near campus left Tulane uninhabitable for several weeks (Lawson, 2005). Prior to the storm, Tulane officials were able to activate an off-campus emergency website and email server so that they could still keep in contact with their students, faculty, and staff until they were able to reopen campus (Foster & Young, 2005). Since their website was already a hub for campus communication, campus officials felt ensuring no lag in that service was very important to the operations of the university (Foster & Young, 2005). According to Debbie Grant, Tulane's vice president for university communications, "without the Internet, there would be such a void in

communication” (Foster & Young, 2005). Almost all lines of communication were knocked out by the storm, including campus email; therefore, many people were unable to see any form of communication from Tulane staff until they were in a location outside of the radius of the storm (Foster & Young, 2005).

Tulane University’s response efforts after the storm were highly commended (Lawson, 2005). Through regular communications via their temporary website, stakeholders of Tulane were able to get information about their university (Lawson, 2005). This communication helped to prevent rumors about campus from forming and spreading (Lawson, 2005). The messages released were forthcoming about what was going on with campus and honest about the outlook of the students’ projected return to New Orleans (Lawson, 2005).

**Virginia Tech University shootings.** On April 16, 2006, an active shooter killed 32 students and professors on Virginia Tech’s campus. While this situation was unfolding, the only way people off campus were getting information was through social media (Jackson, 2011). Many posts were distributed to the world by official sources such as CNN (Jackson, 2011). Many people believe that at the time of the Virginia Tech attack, enough students were equipped with portable devices that notifications sent via text and social media would have kept more students safe (Fagel, 2013). While many people criticized Virginia Tech for the way they responded to this crisis in terms of social media, this incident will be discussed as the event that started a conversation about the way to properly utilize social media in higher education (Hufty Dilbeck, 2013).

The first shooting took place at 7:15 a.m. but the first official statement from Virginia Tech University was not released until noon (Palen, Vieweg, Liu, & Hughes, 2009). The first set of information made available to the public was a social media post reported by CNN (Palen,

Vieweg, Liu, & Hughes, 2009). Students were unaware of the crisis occurring on campus until someone outside of the campus community contacted them (Palen, Vieweg, Liu, & Hughes, 2009). No official communication was sent out until 9:26 a.m. (Palen, Vieweg, Liu, & Hughes, 2009). The second round of shooting started at 9:30 a.m. and students were informed of an active shooter on campus at 9:50 a.m. (Palen, Vieweg, Liu, & Hughes, 2009).

Students, faculty, and staff were told to shelter in place while the shooter was still at large (Shklovski, Palen, & Sutton, 2008). They had to rely on social media to determine the safety of their friends and peers (Hughes & Tapia, 2015; Shklovski, Palen, & Sutton, 2008). The first known social media post occurred at 10:23 a.m. from a student asking friends if they were safe (Palen, Vieweg, Liu, & Hughes, 2009). According to a response from a participant in a study conducted by Shklovski, I., Palen, L., & Sutton, J. (2008), “the only way we all had to get good information here was for those who had it to share it. We relied on others to give us updates when they had info, and we did the same for others” (p. 4). Many students felt that they had exhausted all other options before turning to social media and were unable to get the information they needed from any official sources (Palen, Vieweg, Liu, & Hughes, 2009).

Much of the social media outpouring surrounding the Virginia Tech Massacre happened after the fact (Vieweg, Palen, Liu, Hughes, & Sutton, 2008). According to an analysis of public expectations of the public in regard to social media during a crisis situation, those outside the Blacksburg community found social media very useful when trying to connect with their friends and loved ones who had been impacted to ensure their safety (Houston et al., 2015; Shklovski, Palen, & Sutton, 2008). Facebook users who knew someone on the Virginia Tech campus were using their own profiles to post status messages asking anyone in the area to post on their own profiles letting people know if they were safe (ABC News, 2007). Groups such as “I’m OK at

VT” led many to find Facebook to be a more useful source of information than official sources coming from the news media or Virginia Tech itself (Bloxham, 2008). In fact, a grassroots group on Facebook that reported the names of all 32 fatalities from the incident before Virginia Tech released the names to the public (Hughes & Tapia, 2015; Palen, Vieweg, Liu, & Hughes, 2009).

Many students used social media during this crisis to express their grief associated with the situation (Houston et al., 2015; Vicary & Fraley, 2010) and obtain emotional support (Liu, Austin, & Jin, 2011). These types of a situation will clearly illicit some emotions from those affected, but the student outpouring of grief in this case demonstrated something that had not been considered in the literature about the way college students are using social media (Vicary & Fraley, 2010). According to a study conducted by Vicary and Fraley (2010), 64% of participants surveyed said they had sent a message on social media to someone regarding this tragedy. Participants also reported changing their profile pictures to show support for the victims of the shootings (Vicary & Fraley, 2010). A high number of participants (89%) reported having joined some sort of Facebook group concerning the shootings (Vicary & Fraley, 2010).

Vicary and Fraley (2010) did a study of social media posts during the two weeks following of the shootings at Virginia Tech to analyze the usefulness of social media as a grieving tool. Emails were sent to 900 students who posted during this period, requesting that they fill out a survey regarding their reactions to the shootings. According to Vicary and Fraley (2010), students felt that posting about their feelings surrounding this incident was beneficial to their healing process. Overall, participants of their study reporting feeling better after engaging in support activities on social media (Vicary & Fraley, 2010). Through social media, students were not only able to see what was going on at Virginia Tech, but they were able to “feel the support from people all around the country” (Vicary & Fraley, 2010, p. 1560). During this time

of mourning on the Virginia Tech campus, students were able to connect with those around them and feel engaged with a community of support (Vicary & Fraley, 2010).

**University of Alabama during tornado outbreak.** On April 27, 2011, an EF5 tornado devastated the University of Alabama and the surrounding community of Tuscaloosa, killing 26 and leaving hundreds of community members homeless (Fraustino, Liu, & Jin, 2012). During the event, social media was relied upon to provide the public with information about what was happening on campus. According to a survey sent out to faculty, staff, and students at the University of Alabama, Stokes (2013) found that social media use went up after the storm passed through. Ten percent of people surveyed used Facebook before the tornado and 8% used Twitter, compared to 17% and 13% respectively after the tornado passed (Stokes, 2013). According to post analysis conducted by Fraustino, Liu, and Jin (2012), social media was the first source that was able to show the scope of the damage. Social media was also the primary method for locating and contacting those who were affected by the tornado (Fraustino, Liu, & Jin, 2012). Social media provided an outlet through which the public could offer help by organizing support drives or collecting monetary donations, as well as organizing and advertising volunteer opportunities (Fraustino, Liu, & Jin, 2012).

Because this is a more recent event, very little research exists on the impact of social media usage during the storm; however, there is information on the way social media was used during the relief efforts from the storm (Fraustino, Liu, & Jin, 2012). Once the storm passed and the devastation was realized, social media users utilized their online forums to mobilize and coordinate relief efforts for Tuscaloosa and the surrounding areas (Fraustino, Liu, & Jin, 2012). First responders, as well as campus and city officials, were too consumed with the crisis to coordinate volunteer relief efforts; therefore, much of this coordination had to fall to citizens on

social media to ensure that it happened in a timely fashion (Hughes & Tapia, 2015). Different organizations were able to post their needs for volunteers to Facebook or Twitter and people from all over the world were able to see and respond to their calls for help (Fraustino, Liu, & Jin, 2012). Calling for volunteers in via social media was instrumental to the rebuilding process as many of the relief volunteers were recruited via social media (Haddow & Haddow, 2014).

Additionally, after this outbreak ran its course through the Southeast, researchers at the University of Georgia were able to use social media to conduct a study on the trajectory of the debris scattered by these storms (Daniel, 2013). After the storm, debris was scattered for hundreds of miles (Daniel, 2013). This debris contained valuable family items, such as pictures and other unique items from destroyed homes (Daniel, 2013). Through use of the University of Georgia's Facebook page, the research team that collected these items and analyzed their trajectory posted these items online for other users to see in hopes of reuniting people with their lost belongings (Daniel, 2013). The team posted over 1,000 items online, including one picture that was found to be 220 miles from its origin (Daniel, 2013).

### **Severe Weather Events on College Campuses**

According to FEMA, college campuses have been affected by numerous natural disasters in the last decade (Sherman-Morris, 2009). The event that took place on April 27, 2011 in Tuscaloosa, AL had a large impact on the University of Alabama campus (Brown, 2011). The events of April 27, 2011 created such devastation to the town and areas surrounding campus that campus administrators had to cancel the rest of the semester, including commencement ceremonies for that semester (Brown, 2011). While severe weather events on campuses are just as unpredictable and dangerous as any other campus crisis, the communication that must take place has to be slightly different because there is no way to diffuse the situation until it has run



its course (Lachlin, Spence, Lin, Najarian, Del Greco, 2014). After the weather event ends, campus administrators have to go into campus-crisis mode to navigate the post-storm impact to campus and the student body (Lachlin, Spence, Lin, Najarian, Del Greco, 2014).

College campuses often operate somewhat independently from the surrounding community when it comes to crisis situations, including severe weather events (Jauernic, 2015). In order to help college campuses be as prepared for storms as possible, the National Oceanic and Atmospheric Association (NOAA) offers a “StormReady” distinction college campuses that meet certain criteria defined by the NWS, such as having published severe weather plans that are reviewed periodically, and alert systems in place to ensure that all members of the specified community are able to receive notice of severe weather across multiple platforms (Jauernic, 2015). As of 2017, there are 220 StormReady Campuses across the United States (NWS, 2017).

### **Definition of Severe Weather Events**

Severe weather is defined by the National Severe Storms Laboratory (NSSL) as thunderstorms, tornadoes, flooding, lightning, hail, damaging winds, and winter weather (NSSL, 2016). Additionally, the National Hurricane Center (NHC) defines hurricanes as severe weather as they can contain any combination of the previously mentioned phenomenon (NHC, 2017). For the sake of this study, severe weather will be defined as tornadoes and hurricanes in order to properly narrow down the field of research.

Tornadoes are defined as a narrow and violently rotating column of air that reaches the ground from the base of a severe thunderstorm (NSSL, 2016). Tornadoes themselves are invisible until they reach the ground, where they begin to pick up dirt and other debris which gives them the signature black or gray colors most people expect to see (NSSL, 2016). According to the NSSL (2016), over 1,000 tornadoes impact the United States each year. They

are measured on the Enhanced Fujita Scale that looks at maximum wind speeds observed as well as different degrees of damage reported after the storm (NSSL, 2016). Tornadoes can be indicated on radar technology operated by the NWS as well as by trained storm spotters out in the field that observe them on the ground (NSSL, 2016).

Hurricanes are defined as a rotating, low-pressure system with wind speeds measuring at least 74 miles per hour (OceanService, 2017). Hurricanes are rotating masses of thunderstorms that originate in the ocean and periodically make it to land in various locations (OceanService, 2017). “Hurricane Season” is a period between June 1 and November 30 where the majority of hurricanes occur; however, many storms have been reported outside of this time range over the years (OceanService, 2017). The NHC predicts, tracks, and puts out information about these storms throughout the year and reports an average of 12 storms that make landfall as hurricanes per year (OceanService, 2017). Hurricanes are rated by “Category” on a scale of 1 to 5, based off of maximum wind speeds within the storm (OceanService, 2017). Hurricanes are also named alphabetically on a six-year rotation to distinguish between storms (OceanService, 2017).

In order to keep the public informed about the potential for severe weather, the National Weather Service issues watches and warnings for severe weather events (NSSL, 2016). Watches are issued by the National Weather Service when conditions are favorable for a particular type of weather, including severe thunderstorms, tornadoes, winter storms, and flooding (NSSL, 2016). Warnings are issued when these conditions are being actively observed by the NWS who has qualified professionals on call at all times (NSSL, 2016). Whenever a warning of any kind is issued, those in the path of the storm should take immediate action and find shelter from the storm in order to keep themselves safe until the event has passed (NSSL, 2016).

## **Severe Weather Frequency in the United States**

**Tornadoes.** Since 1880, each of the fifty states in the United States has experienced at least one tornado (Ashley, 2007). Anywhere between 800-1400 tornadoes reported in any given year, with a very small percentage of the reported storms causing fatalities (Ashley, 2007). Over the last decade, strong advances in tornado forecasting techniques, detection software, as well as warning dissemination has been made (Ashley 2007). As a result, a decrease in tornado-related fatalities since 1975, which are reported at a ratio of one in a million (Ashley, 2007). Technological advances in detection and reporting have also led to an increase in tornadoes since 1973, however these numbers have remained relatively stable over the last decade (Coleman & Dixon, 2013). According to an analysis of all storms between 1880 and 2005, Ashley (2007) found that early-April is when the most tornadoes occur, with the majority of tornadoes occurring between March and June as the seasons are changing. A relatively small however significant tornado frequency that occurs in the fall (Ashley, 2007).

When it comes to referring to severe weather, many people are very familiar with the term “Tornado Alley” a vague area between the Rocky Mountains and the Appalachian Mountains (Dixon, Mercer, Choi, & Allen, 2010). Tornado Alley has been used loosely over time, mostly based off personal perceptions rather than actual data (Gagan, Gerard, & Gordon, 2010). Based off a variety of statistical research conducted by meteorologists over the last several decades, the location of Tornado Alley can vary depending on the source (Ashley, 2007; Gagan, Gerard, & Gordon, 2010). The original study conducted to define Tornado Alley is unknown; however, many meteorologists point to a tornado climatology study by Snoden Flora in 1954 (Gagan, Gerard, & Gordon, 2010). According to Ashley (2007), there is a region-specific maximum of tornadic activity in the south-central portion of the United States, and

Coleman & Dixon (2013) outline the area between Oklahoma and Tennessee and North Dakota down to Texas specifically as the boundaries of this region.

Recent conversation in the meteorological community about the existence of an updated location called “Dixie Alley” following the same concept as Tornado Alley, just shifted southeast based off of several years of observations (Gagan, Gerard, & Gordon, 2010). From an analysis of tornado data between 1950 and 2011, Coleman & Dixon (2013) that the greatest risk is in the southern United States, from central Oklahoma, through Arkansas and northern Louisiana, western and middle Tennessee, the majority of Mississippi, and northern and central Alabama. From data collected and analyzed by Dixon, Mercer, Choi, & Allen (2010), a significant but separate aggregate of tornadic activity in the region southeast of the Appalachian Mountains, including Arkansas, Tennessee, Mississippi, and Alabama. They also speculate that without mountains in much of Missouri, no separation between these two areas would exist (Dixon, Mercer, Choi, & Allen, 2010).

While the majority of literature on tornado frequency focuses on Tornado Alley, a great deal of research that supports the concept that Dixie Alley gets just as much tornadic activity, but is overshadowed, and must be further examined (Gagan, Gerard, & Gordon, 2010). The tornado season for Dixie Alley is very similar to that of Tornado Alley; however, the onset of these storms tends to be in the overnight hours instead of late afternoon and evening like Tornado Alley (Gagan, Gerard, & Gordon, 2010). Both areas are equally prone to significant tornadoes (any tornado F2 or greater on the Fujita Scale), but these storms only make up 30% of reported storms between 1921-1995 (Concannon, Brooks, & Doswell III, 2000). Storms producing F4 or higher damage on the Fujita Scale are considered to be “violent” storms make up 2% of all

tornadoes and are responsible for 67% of all tornado related deaths between 1921-1995 (Concannon, Brooks, & Doswell III, 2000).

**Hurricanes.** Tropical storms account for a significant amount of damage, injury, and loss of life in relation to other natural disasters in the United States (Emanuel, 2005). Since 1995, hurricane activity has increased significantly in the Northern Atlantic Ocean, Gulf of Mexico, and the Caribbean Sea (Saunders & Lea, 2008). Tropical storms impacting these three areas account for nearly 90% of all tropical activity that has made landfall between 1950 and 2005 (Saunders & Lea, 2008). The annual hurricane activity has increased from 16% of the years with a major hurricane (Category 4 or 5) making landfall between 1970 and 1994 to 82% between 1995 to 2005 (Saunders & Lea, 2008). Additionally, the increase in large hurricanes has increased in the North Atlantic Ocean since the early 2000s (Webster et al., 2005).

While research seems to be somewhat divided on the actual cause for this increase, Saunders & Lea (2008) point to issues of global warming as the culprit in increased tropical activity. Through studies involving statistical models that measure sea warming in relation to hurricane frequency, multiple studies (Saunders & Lea, 2008; Emanuel, 2005) found that an increase in water temperature in August and September of the years studied led to an increase in hurricane activity for the time period. Additionally, as hurricane frequency increases, the oceans' thermohaline circulation also increases, which has an impact on the global climate and can lead to more frequent severe hurricanes (Emanuel, 2005). Additional causes for increased hurricane frequency and intensity are observed El Nino and La Nina patterns every couple of years, that last up to 26 months, potentially increasing the sea temperatures in the Caribbean Basin (Gray, 1984.) These patterns also have potential to shift the winds in these areas, in turn bringing more storms onto land from the ocean (Gray, 1984).

If trends continue as they have been observed over the last decade, hurricane frequency could continue to grow into the future (Saunders & Lea, 2008). According to Emanuel (2005), hurricane intensity has increased as the global mean temperature has increased; however, the majority of research on this topic is in relation to frequency of strong storms, not the trend that they are becoming stronger. Emanuel's (2005) research argues that as the frequency of strong storms goes up, the impacts of the increased energy has on the atmosphere will further influence future outbreaks and reinforce more storm activity in the future. By this logic, future storms will begin to last longer, have higher peak wind speeds, and cause more damage than storms that have been observed to date (Emanuel, 2005).

**Public perception.** Despite warnings of increased severe weather frequency in these areas, there is the strong perception amongst residents of these communities that there are factors that will prevent them from falling victim to this risk (Klockow, Peppler, & McPherson, 2014). In a case study conducted by Klockow, Peppler, & McPherson in 2014, respondents stated that they were caught completely off guard by the events of April 27, 2011 in Tuscaloosa, AL, despite the very consistent messages put out by the National Weather Service in Birmingham warning residents in the area of the high storm potential from that day. Respondents described what Klockow, Peppler, & McPherson (2014) call "weather myths" that causes many residents to discount the risk for severe weather in their area. One of the most widely cited of these weather myths is the concept of the safety of "home" being able to protect from everything (Klockow, Peppler, & McPherson, 2014). Additionally, many geographical features, such as waterways and hills that protect people from storms, whereas highways and lack of vegetation create a higher risk (Klockow, Peppler, & McPherson, 2014). Many people also hold on to the notion that the devastation they have seen in other cases of severe weather can happen anywhere

else but will not actually happen where they are located (Klockow, Peppler, & McPherson, 2014). Many people who have lived in a certain area for a long period of time also hold on to their historical perceptions of the messages put out about severe weather potential, meaning since they have never seen it happen, it could not possibly happen (Klockow, Peppler, & McPherson, 2014). Conversely, when people have either seen or been impacted by severe weather in the past, they are more likely to demonstrate more caution and are more likely to shelter when warnings are issued (Jauernic, 2015).

While meteorologists broadcast the potential risks widely when they are known, there is still a large challenge in getting past these perceptions (Klockow, Peppler, & McPherson, 2014). Despite these perceptions, noting that storms can form anywhere is important (Klockow, Peppler, & McPherson, 2014). Severe weather is generated by a combination of moisture and energy in the atmosphere and their distribution, while statistically shown to have a frequency, is completely random (Klockow, Peppler, & McPherson, 2014). The perceived factors described by Klockow, Peppler, & McPherson (2014) actually have no influence on storm threat.

### **Social Media Use During Severe Weather Events on College Campuses**

Natural disasters on college campuses unfold at a very rapid pace like many other campus crisis, but the event itself tends to be much more short-lived than other crisis situations (Spence, Lachlan, Lin, & Del Greco, 2015). In order to keep students and stakeholders informed and safe from dangerous weather conditions, efficient, targeted, and timely communication is a necessity (Spence, Lachlan, Lin, & Del Greco, 2015). As students become more reliant on social media for information during severe weather events, administrators must become more comfortable using this technology (Lachlan, Spence, Lin, Najarian, & Del Greco, 2014).

Much of the information about severe weather on social media comes from eyewitness reports (Spence, Lachlan, Lin, & Del Greco, 2015). Campus social media accounts should pay attention to reports coming in near campus using specific language not only to have a concept of what is happening across campus, but also to help keep other students informed (Houston et al., 2015). By doing this, the campus response to these events will come across effectively and well informed in a timely manner (Spence, Lachlan, Lin, & Del Greco, 2015).

When social media is incorporated into a crisis communication plan, students become resources to those around them (Alexander, 2014; Lachlan, Spence, Lin, Najarian, & Del Greco, 2014). The most shared posts regarding severe weather events contain user-generated content (Lachlan, Spence, Lin, Najarian, & Del Greco, 2014). Anyone with a social media account can share what they are experiencing during severe weather, allowing for active participation as the weather situation unfolds (Lachlan, Spence, Lin, Najarian, & Del Greco, 2014).

In order to better organize this information, college campuses utilize hashtags to connect messages about weather events (Lachlan, Spence, Lin, Najarian, & Del Greco, 2014). Hashtags are available across multiple formats of social media and allow users to group messages together about a particular topic for easier access (Zielinski, 2013). Specific hashtags can come from an official source such as the NWS or the institution itself or can be generated by the students (Lachlan, Spence, Lin, Najarian, & Del Greco, 2014). By tracking specific weather hashtags from official sources, or those affected by the storm itself, universities can detect weather crisis situations as they unfold, sometimes before the NWS releases the information (Lachlan, Spence, Lin, Najarian, & Del Greco, 2014). Campuses and the NWS can listen to the public about the situation as it unfolds and communicate information accordingly (Lachlan, Spence, Lin, Najarian, & Del Greco, 2014).



## **Implications of Campus Social Media Use During Severe Weather Events**

Social media has become widely accepted for information dissemination during crisis events (Shih, Han, & Carroll, 2015). In 2015, Shih, Han, & Carroll conducted a study where for a known incident, they used geotagging and keywords to analyze the types of messages sent out during the event. After conducting their search for data, a survey was conducted of the users to assess their satisfaction with the response they received from emergency responders to the situation (Shih, Han, & Carroll, 2015). From this data, social media is clearly being further integrated into crisis communication plans, and the importance of student engagement in the process as they respond to and cope with extreme severe weather events on their campuses is being understood (Shih, Han, & Carroll, 2015). According to the research of Stokes (2013), the potential of integrating social media usage into practice as a means of informing students of severe weather events on campus is just now beginning to be realized.

The research on this particular topic is still very new and very limited, almost exclusively focusing on observational data from case studies such as the examples discussed previously, Hurricane Katrina's impact on Tulane University, and the April 27, 2011 tornado outbreak impacting the University of Alabama campus. Further research on this topic is needed, both in exploration of additional case studies as well as through implementing strategies for communicating during severe weather events. As technologies surrounding social media and severe weather forecasting evolve, the body of research yet to be done should be fluid in order to adapt to changes to keep college students on campuses during severe weather events for years.

### **Summary**

Social media is still an uncharted area for many institutions. While students are coming to college more integrated into social media, the potential for its use on college campuses has not

yet been recognized. In order to increase the effectiveness of social media on college campuses, administrators need to learn the way to utilize social media while normal conditions are present on campus. Once daily protocols for social media are set up, plans should be established to figure out the way social media will be utilized during a crisis situation.

As soon as information is available, it should be shared with students and stakeholders across social media and other notifications systems. Without proper information dissemination, messages can potentially be misrepresented, potentially changing the perception of stakeholders involved. Institutions of higher education having a strong social media presence is vital and as social media becomes more prominent, it will eventually be the primary source of information for college campuses; therefore, administrators need to start planning for this shift.

While there is no clear answer for the way to engage with students via social media, an institution is clearly doing itself a disservice if they are not using social media to engage with their students. According to Crowe (2011),

Social media systems are not going away and neither are disasters; therefore, it is paramount for emergency managers and the profession as a whole to find ways to understand and embrace how social media are impacting their lives and communities (p. 418).

Universities are now beginning to see social media as a valuable tool that can be used during times of crisis rather than allowing it to slip away and cause the institution to lose control of their message.

## **CHAPTER 3: METHODS**

Chapter three begins with an introduction to the topic and focus of the study. Next, the research questions and sub-questions will be identified. This chapter will then present the research design and timeline for the study. The methods for site and sample selection will be discussed, and the participants will be identified. Data collection methods will be discussed. Next, methods of analyzing data will be discussed, as well as how to enhance the trustworthiness of the data collected. Finally, potential limitations of the data will be identified and addressed.

### **Focus of the Study**

The focus of this study is to explore how college campuses utilize social media as a formal communication tool during severe weather events. The study identifies examples of how college campuses are using social media during general crisis situations on campus that can then be applied specifically to severe weather events. To date there is a relatively small amount of scholarly research done in the field of higher education regarding social media usage during severe weather events on college campuses. The research completed thus far involves mostly notification systems, such as emergency alert systems that send out text and email messages and PA systems for campuses (Jackson, 2011; Stokes, 2013; Wilson, 2013), but very little focus is placed on social media and how it fits into campus notification strategies for severe weather events. With a high number of colleges with potential to be impacted by severe weather on their campuses, I believe this study could be very beneficial to the students at those institutions with higher probability to be impacted due to their location. Through this study, a better concept of how to incorporate social media into the notification structures that already exist will be explored to provide recommendations for implementation of social media into current crisis communication plans.

## **Role of Researcher**

“... [I]n a sense, *all of us are researchers*. Why? Because at its core, research is about answering questions as we attempt to understand the world around us!” (Hancock & Algozzine, 2006, p. 3). One of the unique factors of a qualitative research study is the importance of the researcher in the process. While other instruments will be used to collect data through the research process, the researcher is the primary instrument and can impact the process (Merriam, 1988). During this study, I served as the primary investigator. This involved collecting and analyzing all the documents, as well as conducting and analyzing all the interviews.

## **Professional Experience**

Through my extensive experience with and knowledge of the topic, I was able to carry out this study with rigor, demonstrating both integrity and competency with the topic (Lincoln and Guba, 1985). I have had a relatively diverse experience when it comes to research. As an undergraduate, I was primarily focused on quantitative research methods as a meteorology major, which has in part influenced a great deal of the topic generation for this particular study. As a graduate student, I worked closely with my advisor on an ethnographic study on gender issues through theater. As a doctoral candidate, I have taken a variety of research courses that have informed the direction of structure of this study. Additionally, I have had a tremendous amount of support from colleagues and mentors throughout my research career who have shaped the type of researcher I have become; therefore, I feel confident in my abilities to be the instrument through which this research shall be conducted.

Additionally, I have served as a housing administrator for many years, a role that places me in the position of a first responder during any kind of campus crisis. Through this role, I have developed an understanding of what a campus crisis looks like from an administrative point of

view, set priorities when communicating during a crisis, and adapted to the changing situation in order to best serve the students. This experience allows me not only to critically analyze literature from my own lens but will also provide a deeper understanding when conducting my own research on those who have been in similar situations.

In this study I have a unique perspective on the topic. In addition to an interest in and knowledge of severe weather as a result of a bachelor's degree in meteorology from the University of Oklahoma, this topic emerged as one of interest after the May 20, 2013 tornado that passed approximately ten miles north of the University of Oklahoma's Norman campus. While the campus was not directly impacted by the storm itself, the staff and students at the University of Oklahoma, many of who are my close friends and acquaintances, felt the pre- and post-effects of the storm. After observing this event, I began to look for similar examples of this phenomenon and some explanations of the implications of the use of social media on college campuses.

Through the process of preparing this dissertation and my coursework leading up to writing it, I have spent a lot of time in the literature regarding social media itself, how it is used on college campuses, how it is used during crisis situations, and more specifically, how college campuses are using it during crisis situations. I have also spent a lot of time researching the intersections between social media and severe weather, as well as severe weather on its own through my background in meteorology. I believe that this knowledge of literature, coupled with my related experiences, have provided me a strong baseline with which to conduct this study and truly understand the intersections across these varied disciplines.

## **Research Design**

### **Research Question**

In order to properly examine the phenomenon of how college campuses are using social media during severe weather events, this study examines the following:

- Research Question: How have college campuses utilized social media during severe weather events on or near campus?
  - Sub-Question: Where does social media fit within overall campus communication plans already in place?

### **Qualitative Approach**

There are certain events in our lives that have the ability to change the way we see the world around us. In order to understand the process of meaning making, one looks to qualitative research to interpret how certain phenomena have changed us (Patton, 2015). Events such as a tornado or other severe weather phenomena directly impacting one's environment, such as a college campus, can drastically impact one's world. Because of the value experiences have on understanding, this study is qualitative in nature in order to explore the unique nature of how college campuses are using social media during severe weather events.

There are many aspects of how campus administrators are interacting with social media during a severe weather event: the immediate danger they are facing in the storm, the perceived impact on campus as a whole, and demands from the community. In quantitative research, one might attempt to isolate one of those many variables and deconstruct the big picture to understand a component of the situation (Merriam, 1998). However, in qualitative research, the researcher aims to be able to understand an event holistically, from all different angles and with all factors in mind (Merriam, 1998). Qualitative research does not necessarily attempt to determine predictors for future events, rather it strives to understand one particular event deeply

in order to make assumptions for future events of a similar nature (Merriam, 1998). Much of the body of qualitative research as a whole is not looking to test a pre-existing theory, rather it attempts to make its own theories based off of observations and themes derived throughout a study (Merriam, 1998).

For this study I have focused my attention on specific severe weather events on college campuses and examined how social media was used to gain a better understanding of the phenomenon. As mentioned previously, there are many factors that go into this, from personal safety, external motivators, as well as formalized plans. I used qualitative research to gain a better understanding of what was going on in the moment when messages were relayed (or not relayed) to then be able to improve social media plans for the future to better serve students.

### **Constructivist Worldview**

According to Guba and Lincoln (1994), the methods of a study are secondary to a worldview to guide the researcher on their journey. The paradigm that informs a study is the set of fundamental philosophies that steer the researcher's or participant's perception of where they fit into the world as a whole or phenomenon being studied (Guba & Lincoln, 1994). After reading literature on major research worldviews and paradigms (Guba & Lincoln, 1994; Lincoln & Guba 1985), I have aligned my study with a constructivist worldview.

During a severe weather event, those experiencing the crisis at hand will be experiencing multiple realities about what is happening to them. According to Guba and Lincoln (1994), in the constructivist paradigm, there can be multiple realities connected by a shared experience, in this case, severe weather events on college campuses. These realities are relative to the person and can change as the situation changes (Guba & Lincoln, 1994). Additionally, when conducting a study through the constructivist paradigm, the link between the researcher and participant is such

that findings and meaning are being created as the study unfolds (Guba & Lincoln, 1994). Thus, it is imperative that the researcher is able to interact with their participants and their data in order to better refine their findings (Guba & Lincoln, 1994).

Additionally, constructivist researchers concern themselves with research that is trustworthy, credible, and transferable (Denzin & Lincoln, 2008). According to Creswell (2014), constructivist researchers focus on interactions among individuals to understand the phenomenon being studied. For the sake of this study, rather than focusing on perception of social media posts, I have concerned myself with the interactions between individuals and institutions with social media usage and plans. The context of the interactions is very important to this particular worldview (Creswell, 2014); therefore, I also paid special attention to the uniqueness of each case studied in order to properly assess the interactions.

### **Theoretical Framework**

In order to investigate how college campuses are utilizing social media during severe weather events, a phenomenological study was conducted to fully explore the social aspects of severe weather. Phenomenology is rooted in the work of Edmund Husserl, who is considered to be the founder of phenomenology (LeVasseur, 2003). Phenomenology aims to examine how people perceive certain events, allowing researchers to gain a deeper understanding of the phenomenon they are studying (Van Manen, 1990) and to gain a deeper understanding of the world around us (Patton, 2015). It strongly emphasizes experience and interpretation (Merriam, 1998) and seeks to expose how people involved with a particular behavior or event perceive their involvement with that specified phenomenon (Patton, 2015). There is a lot of focus on shared experiences (such as severe weather events) and comparing them across similar settings (such as college campuses) to identify main components of the prescribed phenomenon (Merriam, 1998).



Since campus crisis situations, in particular severe weather events, can have an emotional effect on those who experience them, I have found that a phenomenological component of the study is very important in order to understand the shared experiences of the participants in order to get a better understanding for why they might have behaved in a certain way (Hancock & Algozzine, 2006). By examining how participants in a particular study perceive a particular phenomenon, researchers are able to get into the minds of their participants and gain a deeper understanding of the event (Van Manen, 1990). In order to gain a deeper understanding of social media usage during severe weather events, I explored the experiences of those who have been involved with these scenarios including campus social media managers, emergency managers, university police, and other student affairs personnel who directly interacted with social media on their campuses during the events identified.

### **Case Study**

A qualitative, collective case study was conducted to examine specific events where social media was used to communicate during severe weather events. Case study research is very beneficial in understanding a phenomenon in its natural context, enabling the researcher to find a great deal of detail (Hancock & Algozzine, 2006). According to Stake (1995), case studies are expected to enable a researcher to discover all of the complexities of a particular event. Qualitative case studies are designed to get at the meaning of a phenomena through studying it from all sides and looking at all aspects of the case (Merriam, 1988). Case studies are not designed to necessarily foresee future trends, rather they are designed to “understand the nature of that setting – what it means for participants to be in that setting, what their lives are like, what’s going on for them, what their meanings are, what the world looks like in that particular setting” (Patton, 1985, p. 11) so that those interested in their situation can truly understand their

perspective (Patton, 1985; Stake, 1995). Case study research allows research that is focused on an understanding from the perspective of those being studied (Merriam, 1988).

The uniqueness of different perspectives gathered in a case study are paramount to understanding the phenomenon behind the study itself (Stake, 1995). Furthermore, collective case studies allow context to be collected from several standpoints, not just one, making it more holistic in nature (Merriam, 1988). Through multiple narratives and perspectives, the findings of qualitative case studies tend to be very rich in nature and provide a depth that is hard to replicate with a quantitative study (Stake, 1995). This level of detail is instrumental in contributing to the research on a particular topic and allows researchers to form more sound theories for what is being observed (Hancock & Algozzine, 2006). As such, this study has selected several individual cases that are all related to one another through the common themes of severe weather events on college campuses and their social media usage surrounding the event.

The basis for using a case study to carry out this research is rooted in Bromley's (1986) idea that case studies are characterized by their ability to "get as close to the subject of interest as they possibly can" (p. 23). As there is currently very little research on this particular topic to date, it is very important to go into depth as much as possible with this study in order to provide the highest level of detail imaginable when reporting findings. This case study is nonexperimental in nature as the events had already taken place at the time of the data collection and there were no opportunities to change what has happened, rather a desire to understand the events for the phenomena that they were (Merriam, 1988).

According to Merriam (1988), each case study should possess four crucial characteristics: they are to be particularistic, descriptive, heuristic, and inductive. Case studies that are particularistic are focused on a singular phenomenon or happening and seek to get to the root of

the experience (Merriam, 1988). This study is particularistic in that it explored the phenomena of severe weather events on college campuses and how those events lend themselves to social media communications. Case studies should also be descriptive in nature, meaning that at the end of the study, a wealth of knowledge on the topic that will help others understand what has been studied (Merriam, 1988). This study is descriptive through the diversity of institutions that were studied for their interactions on social media during the identified severe weather event. Another important factor of case study research is that it gives new meaning to previous views and ways of thinking, or to be heuristic (Merriam, 1988). One of the highest hopes I have for this study is that it provides readers with a new perspective on how they should interact with students on social media, particularly during crisis situations, so this study strives to be heuristic in that way. Finally, case study research should be inductive, meaning that the researcher will likely go in with a hypothesis of what they will find, but should be open to other findings as the study progresses (Merriam, 1988). Most qualitative studies start with an end in mind and generally seek to observe those anticipated relationships (Stake, 1995). I hope this study will illuminate the importance of social media efficiency during severe weather events effecting college campuses, although results that show data contrary to this finding have been reported and investigated to enhance the validity of the study.

Crisis situations have the potential to be a very emotional time for those involved. As a result, a study that only looks at the messages that are put out on social media during a severe weather event on a college campus might not be able to get the full picture. By conducting case study research and getting more involved with the people behind the messages, I am able to report a deeper level of understanding for how social media was used during those situations. There could be factors for why certain messages were or were not sent out that differs from what

is written in formal policy, and I hope through this study I am able to illuminate some of those factors. By doing so, it is my hope that future social media plans can contain information or prior trainings that could make the messages more effective through knowing more backstory on what has been done in the past.

### **Site Selection**

In order to understand a particular phenomenon, participants for case study research are selected with both their differences and commonalities in mind (Stake, 1995). In order to get a comprehensive picture of how college campuses are using social media during severe weather events, institutions that have experienced high profile natural disasters in the time of social media were selected to give a broad perspective on current social media practices. The events that will be selected are all relatively similar given the study's definition of severe weather (tornadoes and hurricanes, which are capable of producing tornadoes), as well as to give some consistency to the types of message that should be going out based off of the literature review. The specific institutions that were studied are the University of Alabama (April 27, 2011 tornado), Missouri Southern State University (May 22, 2011 tornado), the University of Oklahoma (May 20, 2013 tornado), and Florida State University (September 2016 Hurricane Hermine). I believe these cases provide rich data on both short-term crises that happen quickly and move to recovery immediately (tornadoes) and long-term crises that happen slowly and take longer to move into recovery mode (hurricanes). I also believe these cases give a wide array of how social media usage has advanced over time from 2011 to 2016 and the implications of this ever-changing platform.

## **Sampling**

According to Hancock & Algozzine (2006), it is important to select participants for a study that will provide important insights into the observed event “who may have the best information with which to address the study’s research questions” (p. 40). For this study, participants were chosen from the institutions listed previously based on their involvement with social media on their campuses during the crisis event. In order to obtain the desired information for this study, I have identified gatekeepers at each of the predefined institutions. Gatekeepers are defined as individuals associated with a particular research site who control access to the information desired for a particular study (Creswell, 2014). These gatekeepers were identified based off of personal contacts I have with a connection to the institutions and events outlined above. For institutions where no preexisting contacts exist, I contacted the media relations departments on those campuses and work to identify the proper contact. I also contacted university police departments, housing and residence life departments, and offices of emergency preparedness, where applicable. Each case was looked at as a whole event, from when campuses have reason to believe they are at risk for severe weather through forecasts put out by the National Weather Service or local weather personnel, lead up to the event as they take any steps to prepare their campus, the event itself, and the aftermath of the event. This allowed for a more comprehensive view of the event, start to finish, showing how social media was used.

## **Data Collection**

According to Stake (1995), there is no clear starting point for data gathering as it truly begins with the concept of the study. Many of these first impressions will eventually be interchanged with better informed observations but will certainly have an impact on the early stages of the study (Stake, 1995). In this study, I started with data collection. The forms of data

collection include observations of past Facebook and Twitter feeds, written documents of any available protocols or guidelines for campus crisis response and communications, as well as interviews of key people on college campuses who work with social media initiatives on their campuses. When analyzing social media feeds, I took screen shots so that observations could be made offline and captured for ease of analysis and to preserve the data in case something got deleted. In order to record information related to the documents, copies of selected institutions' social media plans were requested in multiple versions to gauge any changes that might have been made from the time of crisis to the present format. However, each institution told me those documents were not sharable externally. Many referred me to public documents such as guidelines for crisis situations and codes for communication on campus. After the social media analysis was completed, I conducted interviews to get a better understanding of the documents collected. During interviews, each of the participants was audio recorded and the audio files were transcribed.

### **Document Collection**

While interviews provide a level of detail that is hard to match in other ways, there is the issue of researcher bias in collecting these documents (Merriam, 1988). One of the biggest advantages to collecting documents in a qualitative case study is that they are usually safe from bias and contain facts that will likely be consistent, no matter who is reading them (Merriam, 1988). Documents can be very useful in supplementing information gathered through interviews that can add a sense of credibility to the findings (Merriam, 1988). It is important, however, to be able to critically examine documents gathered in order to increase their validity, as many documents are not drafted to be a part of a research study (Merriam, 1988).

According to Clark (1967), it is very important to ask the following questions about documents that are being used in a case study:

- What is the history of the document?
- How did you obtain a copy of the document?
- How can you be sure that the document is accurate and timely?
- What is your level of confidence in the integrity of the document?
- Has the document been changed from its original version?
- Who created the original document? What was their intention for producing the document?
- What types of sources were used to create the document?
- Are other sources available to confirm the information contained within the document in question?

In the early stages of this study, I also considered the communication plans for social media to be primary documents, however as I asked for those plans once I moved into the interview phase of this study, I found that those were not something I was going to be able to access. Instead, I used public documents in many cases where those were available. I believe these two document types have positively answered Clark's (1967) questions about the integrity of documents used in a qualitative research study. The history and origin of the documents will be clear as they are publicly available on campus websites.

**Written policies.** In the absence of available, formal written policies prescribing how social media should be utilized during a crisis, I asked questions during the interview phase of this study about how social media was used during the event, what the rules were at the time, and if there were any changes made, to their knowledge, since the event in question. In the event

that they knew of changes made, I asked whether or not those changes were a direct result of the events of the severe weather event we were discussing. Additionally, many institutions were able to point me to snippets of information that are publicly available via their websites.

### **Social Media Posts**

Official social media feeds from selected institutions were directly observed in this study. The primary channels of social media that I explored were Facebook and Twitter as they were the most relevant at the time of the events defined for this study. For some of the more recent events, Twitter was the primary channel explored because in practice, it is far more practical and more widely utilized for these purposes. For the earlier events, as well as a lot of the cases addressed in the literature review, Facebook is the primary channel because Twitter was launched after Facebook and did not gain popularity with this type of communication until recently. The majority of the posts were tracked via hashtags, which allow content to be linked to other content. This feature is primarily associated with Twitter but has recently been launched on Facebook. In order to track information on Facebook that occurred before the hashtag technology, I have identified official pages of the institutions being studied and analyzed the posts from the time a watch or warning had been issued through the severe weather event and for the two to three days following, depending on how much activity there is online related to the aftermath of the storm. I have also looked into comments, reposts, and any other supplemental information available. Additionally, because of the relatively endless nature of social media, I purposefully selected the observations being made as to not become overwhelmed with the amount of information available by being selective in what does and does not constitute an official source. Overall, approximated 3,000 Facebook posts and 12,000 Tweets were analyzed prior to beginning the interview phase of this study.



## **Interviews**

Interviewing is one of the most traditional forms of data collection in qualitative research, in particular with case study research (Hancock & Algozzine, 2006; Merriam, 1988). The purpose of conducting interviews in this study is to examine the perspectives of those involved with the cases being examined (Stake, 1995). All of the cases being examined in this study have happened in the past, therefore there is no way to replicate and observe directly. According to Merriam (1988), there is no way to directly observe the phenomena that has already occurred, so conducting interviews is the best way to understand the participant's feelings, thoughts, and intentions during the crisis situations in question. Information collected during interviews has the potential to be very personal and will likely make it specialized to a particular participant, which will add a richness to the data collected that is hard to match with other data collection methods (Hancock & Algozzine, 2006).

This study sought out the social media managers or similarly titled professional staff members on the campuses being studied who are responsible for the official messages being sent out during crisis situations. Additionally, because of my background in Housing and Residential Life, professional staff members who interacted with the social media presence of university residential programs were also sought out and interviewed. Additionally, on many campuses, after reaching out to the individuals in communications as residential life, it was recommended that I speak with people either in emergency management or campus police, and those leads were followed. Overall, 18 interviews were conducted: seven at the University of Alabama, four at Missouri Southern State University, five at the University of Oklahoma, and two at Florida State University.

All interviews were conducted via phone or Skype. I audio recorded and transcribed all interviews. The interviews conducted in this study were semi-structured, allowing me to ask a series of questions to get at some basic information about the events without being so rigid as to not allow additional, potentially pertinent information to be gathered (Merriam, 1988). Questions were guided by the literature and theoretical framework and structured in a way that was as unbiased as possible about the event as to not skew the answers given by the participants. Participants were asked a variety of different questions, including behavioral questions to recall their actions during the event, as well as questions about their thoughts as feelings as they turned into actions during the crisis. They were also asked questions that enabled me to gather facts about the event as they perceived it and how those facts impacted their actions during the crisis.

In order to get the most out of the interviews, as well as keeping with the constructivist nature of this study, I interviewed in such a way that Patton (2015) describes as a dialogue of shared experiences between the interviewer and the interviewee in order to establish a shared sense of meaning making. I used the interview guide approach (Patton, 2015), so the questions were similar across the participants, but because of their varied experiences, probes were utilized to get more information about the nuances of each particular case (Patton, 2015). Questions had some overlap to determine themes across the different cases being studied. All questions related back to the research questions in some way so that the data being collected was relevant to the study (Hancock & Algozzine, 2006).

### **Data Analysis**

Due to the nature of qualitative research, special care must be given to the integrity of a study in order to increase its validity and reliability (Merriam, 1988). In order to do this, careful attention must be paid to how a study is designed, how all data is collected, and then, finally,

how all of the data is analyzed (Merriam, 1988). Most qualitative research hinges on the idea of “understanding” a particular phenomenon, not proving it to be true (Merriam, 1988). Because of this, the criteria for what makes a particular study reliable will look much different than it might in quantitative works (Merriam, 1988).

In order to enhance the validity of this study, a combination of methods and perspectives were combined to create a rigorous, complex, and rich narrative to add to the inquiry on the topic at hand (Denzin & Lincoln, 2008). In order to accomplish this, I triangulated the data across interviews, observations of social media posts, and document collection detailing social media usage and social media plans on campuses examined. Once themes have been validated across multiple sources, the themes are explained in great detail in order to provide more information on how the themes were observed and why they are relevant to this study.

Qualitative case studies historically produce a large amount of raw data that in turn has to be sorted systematically in order to formulate useful results (Bassey, 1999; Hancock & Algozzine, 2006). This requires a great deal of discipline in reviewing the data as well as motivation to not get overwhelmed by the amount of information that will be collected (Merriam, 1998). The end goal in mind is to take the research questions, formulate ways to answer them, and convert the raw data yielded into themes and then develop intelligible statements from that data to answer the original research questions and produce empirical findings (Bassey, 1999). In case study research, the researcher must be continuously analyzing their data in order to refine their research questions to allow for improvements to their data collection as the process evolves (Hancock & Algozzine, 2006; Merriam, 1998).

In case study research, each particular case was looked at as one individual unit and later combined with the other cases to determine a comprehensive picture of the phenomenon being

studied (Patton, 2015). The data analysis process started as soon as data was collected so that I could start making notes while the information was fresh (Merriam, 1998). Once all interviews were conducted and analyzed and all documents had been collected and studied, all of the data was hand analyzed for common themes (Hancock & Algozzine, 2006). Once themes were identified, they were sorted into categories. As themes and categories were established, the data was reevaluated and compared with the literature using the pattern matching technique as defined by Trochim (1989). Through this method, I have compared patterns present in the data with those I have predicted based on my knowledge of the literature on the study. Patterns were then compared across institutions and crisis events to determine if a pattern existed on a wider scale.

When developing patterns, I looked for information on how social media was used by individuals and their institutions, how this use aligned with the predetermined plans (if applicable), and what could or should have been done differently for the future. From there I developed a codebook (Creswell, 2014; Miles & Huberman, 1984; Strauss & Corbin, 1998) to organize the data for analysis and interpretation. I utilized axial coding strategies where I developed patterns within the data and put the pieces of these patterns together into a format that was useful when interpreting my results (Strauss & Corbin, 1998). This allowed me to better visualize my data, create matrixes or flow charts, and piece together the meaning across various cases (Miles & Huberman, 1984; Strauss & Corbin, 1998).

### **Trustworthiness and Validity**

Lincoln and Guba (1985) defined trustworthiness as the ability of the researcher to persuade his or her audience that the work they have done are worthy of attention. The researcher has the responsibility to establish evidence that their findings can be considered

“truth” (Lincoln & Guba, 1985). They must also confirm that their findings are applicable to other contexts, consistent across similar subjects and settings, and are neutral and free of biases (Lincoln & Guba, 1985). Lincoln and Guba (1985) listed concepts that should be addressed in order to enhance the trustworthiness of a study: prolonged engagement, persistent observation, member checks, triangulation, peer debriefing, and the audit trail.

**Prolonged engagement.** In order to safeguard that the data collected is valid, the researcher must be prepared to spend a sufficient amount of time conducting the study to be fully immersed into the data (Creswell, 2014). This will allow the researcher ample time to be able to determine the nuances of the case being studied, such as culture, as well as establishing credibility as a researcher so those involved with the study trust the work being done (Lincoln & Guba, 1985). Without spending the time getting to know the case being studied, it is unreasonable to believe that a researcher could know enough about the phenomenon to draw proper conclusions from the findings or begin to apply those findings to different cases (Lincoln & Guba, 1985). In order to fully understand any type of phenomenon, the researcher has to spend enough time with the study itself to have the full picture of the findings (Lincoln & Guba 1985). Additionally, without prolonged engagement, it is possible that the presence of the researcher might skew their findings simply because their presence in the environment is completely foreign (Lincoln & Guba, 1985).

In order to achieve prolonged engagement in this study, I did a lot of the contextual work on the front end. I do not feel that I was as much of an outsider as many researchers can be during an observational based study because there was no need for me to observe anything in person within my conceptual framework. Instead, I did the majority of the observations before conducting any interviews so that I was able to come prepared in order to demonstrate my

understanding of what happened with each individual event. Through my interviews, I established trust with my participants by allowing them to tell their sides of the stories in regard to the study, and I sought to understand their points of view to enrich the context I obtained involving the case itself.

**Persistent observation.** According to Miles & Huberman (1984), it is very important to treat all data equally in order to get the most out of it. It is equally important to pay careful attention to not ignore any data so that all explanations can be explored (Miles & Huberman, 1984). While it is possible that some data might be better than others due to the source and perceived validity, it is still important to pay attention to all data collected and thoroughly examine it before determining it invalid (Miles & Huberman, 1984). It is also important to follow all potential leads of a study so that every possible data source has been explored (Lincoln & Guba, 1985). In order to do this, one must rely on their theoretical framework that led to the case study method in the first place (Yin, 1994). Additionally, when a study is conducted in a way that is true to its guiding framework, the data will reflect those ideas (Yin, 1994).

I believe persistent observation was one of the most challenging aspects to the validity of my study. Because of the vastness of the information on social media, it is possible that some things might have been missed or lead to various paths as the study progressed. I paid careful attention to grounding myself in the information presented by official communication sources as defined by this study so that I did not stray too far from what was being studied. Additionally, it is quite possible for different cases to use their social media differently for communicating during a crisis, so it is important to give each of those perspectives equal weight before moving forward to report my findings and recommendations.

**Member checks.** In order to add a set of checks and balances to the research process, many researchers will employ a strategy known as member checking to their data analysis so that the results they are presenting are what the source intended during data collection (Lincoln & Guba, 1985). This requires ongoing communication between the researcher and the participant through all stages of the study (Creswell, 2014). “Although it is they who are studied, they regularly provide critical observations and interpretations, sometimes making suggestions as to sources of data” (Stake, 1995, p. 115). When participants are a part of the data analysis portion of the study, they can confirm that how the researcher is representing their words is how they intended, enhancing the accuracy of the data being presented (Stake, 1995). A participant’s corrections to a researcher’s interpretations has potential to alter the final results of a study, thus adding a layer of checks and balances in the data analysis process (Stake, 1995). According to Stake (1995), member checking does not often lead to any changes to the interpretation of the researcher but is a necessary part of the validation process. Member checking can also help to triangulate the results (Stake, 1995), which will be discussed in the next section.

Member checking took place throughout my study. After doing all of my interviews and document analysis, I wrote up my findings from each site before moving on to the next. Once these findings were written up, I circled back to all of my interviewees by emailing them summaries of our interview for their review so that I properly represented their perspectives, and if applicable, their interactions and perceptions of the documents analyzed in addition to their interviews. Any discrepancies were addressed before I moved on to the next case.

**Triangulation.** In order to properly observe a phenomenon being studied, one must be prepared to collect their data across multiple sources (Creswell, 2014). Derived from the metaphor of radio triangulation used to determine location (Lincoln & Guba, 1985), the process

of comparing perspectives across multiple data sources to enhance the validity of a study is referred to as triangulation (Lincoln & Guba, 1985; Stake, 1995; Stake, 2008). “The use of multiple methods, or triangulation, reflects an attempt to secure an in-depth understanding of the phenomenon in question” (Denzin & Lincoln, 2008, p. 7). This allows for changes in circumstances or environments to be translated across findings from individual cases, which leads to theories being developed about the phenomenon being studied (Stake, 1995).

Denzin (1978) suggests there are four different methods for triangulation: the use of multiple different sources, various methods of data collection, multiple investigator perspectives, and different theories for how the data is to be interpreted. According to Lincoln and Guba (1985), source triangulation is the most widely recognized form of triangulation due to the fact that obtaining the same information from multiple sources automatically adds credibility. Additionally, observing the same phenomenon from multiple different methods will yield the same results from different approaches, establishing transferability across settings (Lincoln & Guba, 1985; Stake, 1995). Furthermore, triangulation can occur by having additional researchers look at the data collected to see if they see the same patterns across cases to add validity to your findings. (Stake, 1995). This can also provide the opportunity for you to get more out of the data that you might have pulled out yourself; it is unlikely that any two researchers will interpret the same data entirely in entirely the same manner (Stake, 1995). All of these triangulation methods will allow the researcher to have a more holistic view of the data collected and the subsequent interpretations (Stake, 1995).

In order to triangulate my study, I investigated the same phenomenon across different cases through multiple methods. Each of the cases looked at the same types of behaviors under slightly different circumstances (location, institution type, and potentially different philosophies



and procedures) in hopes of developing an explanation for the phenomenon across institutions. For each of the cases I considered through this study, I conducted both document analysis and multiple interviews, therefore creating a form of methodological triangulation. Additionally, Lincoln and Guba (1985) suggest that keeping a research journal throughout the process will allow the researcher to better explain their thought process and decision-making processes throughout the analysis phase. I utilized this strategy after every interview, as well as throughout my document analysis, in order to better present my findings once my study was conducted. I also relied heavily on my dissertation advisor and committee to confirm that I was drawing conclusions that made sense from my data and was not missing any key facts that might have changed my outcomes.

**Peer debriefing.** In order to enhance the validity of a study, it can be very helpful to have another researcher examine your findings so that the results presented are an objective representation of your data (Lincoln & Guba, 1985). Through a process such as a doctoral dissertation, it is expected that the researcher will become so immersed in the data that certain findings could be missed along the way (Piantanida & Garman, 1999). In order to safeguard against this in my study, I relied on my advisor, as well as the rest of my doctoral committee, to ask questions throughout this process that required me to shift my focus and look at my data through a different lens. I also relied on my advisor in particular to be familiar enough with my process and my data to help guide me away from pitfalls she may have experienced through her dissertation phase to enhance the quality of my work. Additionally, a good friend of mine is going through this process congruently, therefore I relied on her for motivation, shared tips, and fellowship throughout the process.

**Audit trail.** One final layer in determining the trustworthiness of a study is the examination of the researcher's audit trail (Lincoln & Guba, 1985). When doing this, an auditor external to the study examines all of the materials the researcher has collected throughout their study in order to determine the dependability and confirmability of the study (Lincoln & Guba, 1985). According to Lincoln and Guba (1985), the audit trail process is attributed to Edward S. Halpern, who asserts that an audit trail contains six categories:

1. Raw data, including all documents, audio and video materials, notes, and data from any surveys conducted,
2. Data reduction and analysis products, including condensed notes, summaries, working hypothesis, and potential direction of theories,
3. Data reconstruction and synthesis products, including theme generation, findings and conclusions, and the final report of findings,
4. Process notes, including any notes made about the process of the study itself,
5. Materials related to intentions and dispositions, including proposals and personal notes, and
6. Instrument development information, including forms, interview questions, schedules, and rubrics.

In order for an audit to take place, the researcher must be prepared to describe in great detail how all of their data was collected, how they came up with their themes and categories while analyzing their data, and how they made decisions throughout their study (Merriam, 1988; Merriam, 1998). While preparing for an audit, the researcher must stay organized and unbiased with their data and their findings (Patton, 2015). The purpose of an audit trail is not only to determine the dependability of a particular study, but to show that the research did their part to

minimize biases, maximize their accuracy, and to do their best to report their findings impartially (Patton, 2015). It is important to put emphasis on the observed findings, not personal opinions or agendas related to the study (Patton, 2015). While it is impossible to be completely impartial in a qualitative study due to the personal nature of the field, an audit trail is a good safeguard for ensuring the credibility of the study (Patton, 2015).

In order to achieve a smooth audit process on my study, I utilized my already strong organizational skills to file and save all data properly for ease of access and use later in the study. I housed the majority of my files in my Evernote Premium account, which is backed up through the Apple iCloud, which is all password secure. These files are accessible across all of my devices for ease of use no matter what I am doing. In order to confirm that I am properly representing my data, I leaned heavily on my dissertation advisor and other members of my committee to challenge my thought processes so that I was able to see multiple perspectives when making my interpretations. When it came time for an audit, I relied on other doctoral candidates going through this process at the same time and will return the favor when it is their time to go through the audit trail process.

**Reflexivity and positionality.** As evidenced by the nature of qualitative research, attention must be paid to the researcher as an instrument and how their personal attributes might have an impact on their work (Bourke, 2014). Additionally, this impacts how close a researcher is able to be to their data, when oftentimes their presence when conducting a study makes them somewhat of an outsider (Merriam et al., 2001). Through my experience in the meteorological field, I gained a great deal of knowledge of weather phenomenon and have found myself drawn to how these situations impact people. Through my work in the higher education field, I have found many ways for these interests to intersect. Conducting this research has hit very close to

home for me due to the connection I have with all aspects of the topic, as well as my particular closeness to one of the institutions chosen for this study. I believe these attributes have enabled me to maintain a critical closeness to the topic throughout the duration of this study.

### **Limitations**

As with all research studies, there are limitations with this study. First, the timeline of the events to be studied may have an impact on my abilities to collect information. Due to the fact that the tornado outbreaks that impacted Missouri Southern University and the University of Alabama were nearly five years ago, a lot could have drastically changed in that timeframe. Tracking down personnel from the time and older editions of crisis communication policies proved to be very challenging. I do believe that the contacts I was able to make, along with the interviews I conducted, were sufficient in getting at not only the events of the day, but how things might be different today from when the event occurred. Due to the fact that many of the crisis response and communication plans are not public, I do believe that the public documents provided and the interviews that took place were sufficient for filling in those gaps. Additionally, I worried that since some of these events happened so long ago, the participants might have had a difficult time remembering fine details about the events and their decision making. I found, however, through the interview process that because of the traumatic nature of the event, many of their memories were as clear as if it had happened yesterday, so I do not believe this was a factor that should cause concern with the data.

In addition to timelines for the universities, the time that has passed in the development of social media technology has had a drastic impact on what social media looks like today versus ten years ago and even five years ago. Because of the differences in the types of social media used for different events and how social media tracking has changed over the years, there was

some difficulty in drawing parallels between social media usage for some of the more recent cases to the earlier ones because of the changing technologies. In order to combat this, I asked questions regarding their experiences with updated technologies and their perceived impacts should those technologies have been available at the time of the incident in question. I did have to go about tracking down the data differently for the earlier cases than the more recent cases, which meant I had slightly different approaches for each case, while still falling under similar methods. Despite this, I believe there are still clear patterns that have emerged across the cases, so no real data integrity issues were present, only challenges to me as I looked for my information.

In the early stages of this study, I had planned on including the official communication plans of each of these institutions, both at the time of the weather event studies and the current plan, in the document collection portion of my data collection. However, as I began to dig for them online, I noticed that there was very little information about these made public. When I interviewed people who had access to these plans, I was told across the board that these plans are internal and they are not allowed to share these documents. I encountered a variety of reasons for not being able to access these documents: cost to print, how quickly they become out of date due to staff changes or changing modes of communications and wanting them to stay private so that those who might have ill-will were not able to interfere. Because of this, I never obtained access to any institutional plans for how social media should be used or how it fits into communication plans as a whole. I did inquire about these plans in the interview process, but rather than having the written copies, I had to rely on the perceptions and interpretations of those I interviewed. This could have led to biases when asking about the effectiveness of the communications as well as whether or not proper protocols were actually followed during the event.

Many people told me outright that the plans have changed drastically since the storm, however without the written plans to verify this, I am still relying on participants to share this information secondhand. Additionally, since some of these incidents happened so long ago, some of the people I talked to could not recall with certainty when components of the emergency social media plans were changed, such as communication hierarchies and approvals, messaging guidelines, and timelines. While they may have believed some of the changes happened as a result of the event in question, without written record, it cannot be verified against another source. While lack of access to the actual policy documents meant that I was relying on the participant's accounts of what happened, I addressed this by asking questions about how these situations would be handled under their present structure. Through this information, I believe I was able to at least demonstrate the differences in how social media was used at the time of the event versus now, showing progress in the plans.

### **Integrity of the Study**

In order to maintain an ethical research process, all of the rules and regulations of the University of Arkansas Institutional Review Board (IRB) were honored and followed at all times. All interview participants of this study were fully informed of the nature, purpose, and scope of this study and were asked to sign a form to verify their informed consent and willing participation. If at any point during the study a participant wanted to withdraw, they were able to do so without penalty. Additionally, all information collected through this study has been kept secured at all times.

The use of social media does present a unique situation for the anonymity of the participants as most social media is considered to be public record (Bertot, Jaegar, & Hansen, 2012). Since the accounts that were analyzed in this study were all the official accounts of the

universities, they are not meant to be private like a personal account, therefore, there is less of a need to protect the identities of participants in this case. Social media identifiers such as handles or usernames will not be utilized for individuals, only organizations (such as the National Weather Service and all institutional accounts). Additionally, people who were interviewed are never referred to by name, only by their title on the campus they are affiliated with.

### **Summary**

In order to explore the phenomenon at hand, I created a qualitative case study that is rooted in a constructivist worldview that takes cues from phenomenological studies that came before it. While conducting the study, I observed social media posts across the institutions defined by the parameters of the study, studied available documents regarding social media and communications policies on those campuses, and interview key university personnel who were involved with social media messaging during these events. After all data was collected, I analyzed for common themes and took measures to verify the data and ensure its validity.

## **CHAPTER 4: FINDINGS**

Chapter four begins with a summary of the study conducted then provides an in-depth presentation of the findings from data collection, including review of social media posts about the events, interviews with relevant professionals involved with emergency response, copies of campus alerts, and any communication policies that were available. During the research phase, all of the institutions stated that they were unable to share the official copies of their written communication policies, but staff were willing to explain portions of their plans or direct me to publically available information from their institution. Each portion of the findings section will present a synthesis of all the information collected from each institution as well as a summary of results.

### **Summary of the Study**

The purpose of this study is to explore how college campuses have utilized social media to communicate during past severe weather events in order to identify examples of best practices in social media utilization on college campuses and provide recommendations for social media strategies to be implemented into current crisis communication plans. Through a qualitative case study, data was collected across four different institutions that have experienced high profile natural disasters in the time of social media were selected to give a broad perspective on current social media practices: The University of Alabama in Tuscaloosa, Alabama regarding the tornado outbreak on April 27, 2011; Missouri Southern State University in Joplin, Missouri regarding the tornado outbreak on May 22, 2011; the University of Oklahoma in Norman, Oklahoma regarding the tornado outbreak on May 20, 2013; and Florida State University in Tallahassee, Florida regarding Hurricane Hermine in September 2016. For each institution, posts from Facebook and Twitter following specific parameters discussed in each section were



analyzed. Additionally, interviews were requested with campus social media managers, emergency managers, police chiefs, and residential life personnel for each of the institutions. Specific information will be given in each section regarding who was reachable and willing to participate in an interview. Finally, other information, such as public communication guides and messages sent out over emergency alert systems, is included in the sections below where available.

### **University of Alabama**

At the University of Alabama, I was able to connect with seven people: both the Director and Assistant Director of Emergency Preparedness, the Director of Residential Communities, the former Marketing Coordinator for Housing and Residential Communities, the Manager of Broadcast Media, the former Associate Director for Housing Administration, as well as the Assistant Vice President for University Relations, since retired. Additionally, I reviewed social media data from a Facebook search for “University of Alabama Tornado April 2011” and Tweets near Tuscaloosa, Alabama between April 27, 2011 and April 28, 2011. I also pulled all Tweets sent from the following accounts between April 27, 2011 and April 30, 2011: @WVUAFM, @UofAlabama, and @uasga. This yielded approximately 350 Facebook posts and 800 Tweets. I also pulled information from the University of Alabama Office of Emergency Preparedness on severe weather guidelines. Finally, the Emergency Manager was able to share all messages that went out via the campus communication system Blackboard Connect, as well as the updates posted to their website throughout the event.

The Director for Residential Communities described April 2011 as a busy month, weather-wise. She said the severe weather sirens went off in Tuscaloosa several times that month, and she could tell that students were becoming desensitized to them as there were never

any real impacts prior to April 27. She said this one felt different because the news stations were telling viewers to start preparing for a historic day. According to the Manager of Broadcast Media, tornadoes impacted Tuscaloosa on April 15, 2011 but did not impact the portion of town where the University of Alabama is located. Even on April 27, 2011, there were storms in Tuscaloosa County around 5 a.m., but they did not impact the university. That afternoon, around 4 p.m., the severe storms returned, this time coming even closer to campus and having a direct impact on many students, faculty, and staff at the University of Alabama.

According to the Emergency Manager for campus, his office started notifying students, staff, and key stakeholders about this potential weather event days in advance. He said the National Weather Service office in Birmingham was calling for the day to be a unique and dangerous situation, unlike anything that had been seen in that area in the last century. He said his office was careful in how they crafted their messages to accurately convey this message so that it did not cause panic, but still expressed the seriousness of the situation. On April 27, 2011, the Emergency Manager said his team set up an Emergency Operations Center (EOC) per NIMS guidelines around noon, knowing what was potentially coming that day. Additionally, the Manager of Broadcast Media said the entire communications team was assembled early in the afternoon as well, ready to communicate anything that might happen throughout the course of the day. He said there were multiple tornado warnings were issued for campus that afternoon, including the one for the storm that devastated the city of Tuscaloosa which hit around 5 p.m. He said prior to that storm, campus had been shut down and all operations had ceased due to severe weather. The former Marketing Coordinator for Housing and Residential Communities said there was not much communicated about this closure until it was too late to do anything but shelter on campus.

The Director for Residential Communities said that when the sirens started going off that afternoon, they ordered shelter-in-place across the residence halls. The order remained in place after the storm passed until they could assess the situation further. Campus police eventually issued an all-clear notice to allow students to leave their shelters. A majority of the buildings on campus were without power, and the Director for Residential Communities said a shelter station was set up at the recreation center.

According to the Emergency Manager, campus did not sustain a direct hit and there was very minimal, if any damage to campus. Despite the lack of damage, all emergency communications structures were deployed, including text, email, and voice calls. He also said that they took down the normal home page for the campus website and replaced it with an emergency page where pertinent information regarding the storm could be posted. The former Associate Vice President for University Relations said she believes the website was one of the most effective ways they communicated because it provided a centralized place for information. This allowed people who were not on campus to find out what was happening, even when phone lines went down. In addition, the Emergency Manager said that social media strategies were also being enacted via Facebook and Twitter. He said not sustaining a direct hit gave his staff and well and the entire EOC operation a chance to practice deployment of crisis strategies without having to go into recovery mode after the storm passed.

The messages that went out over the campus Blackboard Connect system, the updates on the website, and the social media posts through official University of Alabama channels were all designed to match. The messages that went out via text and social media were short snippets of the information that could be found on the website and via email. There were several posts before the storm hit referring students to the severe weather policies for campus, which include

information on when and how classes would be cancelled, where to go in the event of a tornado warning, and where to look for more information. During the storm, the messages sent out were much shorter and more directive and indicated direct observations from the National Weather Service office in Birmingham, as well as directives for safety for followers. Once the storm passed, messaging and posting shifted to information about finding shelter and campus closings.

According to the former Associate Vice President for University Relations, she was one of six members of the university's Emergency Policy Group, who was ultimately responsible for sending out all communications during this event. This group consisted of herself, the President, the Provost, the Vice President of Student Affairs, a representative from Financial Affairs, and the Associate Vice President over campus police and emergency preparedness. The group met monthly since its creation to have conversations about how best to communicate during a crisis situation. This time was also used to review and revise their green book, a manual that specifically details their communication plan. She said this allows all of those involved in decision making and communication to be on the same page regarding what information needs to go out before any kind of crisis arises. She also said they conduct very in-depth trainings on the green book contents to ensure that everyone understands their job and can think through what will go into performing the job. She said they train for worst case scenarios and codify practices into written policies so that there is less confusion should they have to work under less than ideal conditions, such as no power or enhanced external media coverage.

During the storm, this group was sheltered together in a building with a large bunker and generators so that they could continue working if campus lost power. The former Associate Vice President for University Relations said campus had been under a continuous tornado warning since about 3 p.m., meaning classes had been suspended. Students, faculty, and staff were all

sheltered in place. She believes this enabled her team to better disseminate messages and potentially save lives. She said once the storm passed, with the Emergency Policy Group all together in one room, they could make decisions about what needed to happen on campus and she could instantly relay this information to be communicated out with very little lag time. She said this allowed for a flat hierarchy for disseminating information. She said once a decision got made, she was able to immediately send information to her team who circulated it immediately. She said she also trusts her team to answer questions and send out additional information rather than running it back up the chain to her and the Emergency Policy Group.

The former Associate Vice President for University Relations said once the campus went under a tornado warning, her team was sending out messages approximately every 15 minutes, even if there was no new information. Using the campus Blackboard Connect system allowed these periodic updates to be sent via social media, e-mail, and text simultaneously. She described the messaging on April 27, 2011 as “very in-your-face, aggressive, assertive, you-can’t-ignore-it” (University of Alabama former Associate Vice President for University Relations, personal communication, January 10, 2018) to ensure that the seriousness of the situation was being communicated effectively. She did, however, mention that there is a limit to what staff can do; staff can be overextended by using more methods than you have available staff members. This meant that the social media presence during the storm had to be specifically assigned to someone as there were not personnel dedicated to social media until 2016.

At a departmental level, the former Associate Director for Housing Administration said that as a campus auxiliary, Housing and Residential Communities was expected to wait for information to come from official university channels on social media before sending out their own information. She said this allowed the university to take the lead on the communication as

well as send out the information when they are prepared to enact whatever plans they were communicating. The Director for Residential Communities said the communication on April 27, 2011 and the days shortly after were very chaotic because there was so much happening. The former Marketing Coordinator for Housing and Residential Communities, as the one who created the social media presence for Housing and Residential Communities, said that this presence had not been established at the time of this storm. In lieu of the ability to communicate with students via their own social media, they posted messages on their website that referred people seeking information to the campus website for more information.

While campus did not take a direct hit from this storm, there was a power outage that lasted for several days. He said a lot of the communication stopped during the storm due to the power outage. He said once it was safe to do so, they relocated communications staff to the EOC, however while they were down, a lot of incorrect information was being posted to social media by unofficial and community sources, such as students and other community members. He said this caused the communications staff to have to spend a great deal of time playing catch up to correct misinformation before they could start being proactive about their messaging again. He said, “in the absence of communications, people are going to create their own” (University of Alabama Director of Emergency Preparedness, personal communication, October 13, 2017) and that had to become a major focus of their social media efforts moving forward.

When evaluating the posts from that day on both Facebook and Twitter, there are some posts from the main campus channels, but the majority of the information available came from unofficial sources. The messages that were posted by the university’s communication team include information about potential for severe weather, subsequent weather warnings, and notice of cancelation of classes and campus activities. When compared to the Tweets near Tuscaloosa

on April 27, 2011, this seems silent. There are thousands of public messages with location information from the Tuscaloosa area, most of which include commentary on how scared the users are of what is coming, asking followers questions about what is happening, then saying they are safe once the storm has passed. There is a lot of information about what is happening on campus, however few are from an official source.

In the absence of official statements on the six students who passed away during the event, the former Associate Vice President for University Relations, the Director of Housing and Residential Communities as well as the former Marketing Coordinator for Housing and Residential Communities all stated that the campus newspaper, the Crimson White, released the name of a student who had died in the storm via social media before their parents were notified. The former Associate Director for Housing Administration believes this is a risk officials run when trying to share information very quickly online. She said she in no way faults the newspaper for their reporting, as she believes they were providing a service to campus that was much appreciated. She does, however, state that this is a big part of why she feels there is a need for protocol when it comes to sharing out information and deferring to a more reliable source, like a campus social media account, to share something with that large of a potential impact.

During a crisis on campus, the Office of Strategic Communications is responsible for disseminating information via social media. However, sometimes they must be fed the information from the Office of Emergency Preparedness during severe weather or campus police for any other campus emergency. According to the Assistant Director of Emergency Preparedness, one of the first things he does each morning when he arrives on campus is interface with the National Weather Service Office in Birmingham to get a report for what, if any, weather threats can be expected for the day, both severe as well as winter weather. He

communicates this information to key administrators across campus who need to know that information, including those responsible for communicating with campus. He said he does a lot of “heads up” (University of Alabama Assistant Director of Emergency Management, personal communication, November 16, 2017) messaging with those administrators to make sure people are ready to act as far in advance as possible.

The former Associate Vice President for University Relations also said that once it is clear that campus is at risk for a crisis situation, they begin working on the “first three things” (University of Alabama former Associate Vice President for University Relations, personal communication, January 10, 2018) they will need to do should something happen. She believes this allows them to get ahead of the situation and “get their feet under them.” She said this varies depending on situation and timing, but with respect to social media management, this includes anticipating what information people will want to know and preparing “dummy messages,” (University of Alabama former Associate Vice President for University Relations, personal communication, January 10, 2018) or templates that just need details added before sending them out. This also allows them to prepare generic messages that would go out regardless of the situation so that they do not have to spend time creating them in the moment. She said after doing this for a while, her team has a good instinct for what information people will be asking for, therefore they can anticipate a lot of the messages they would need to create before any crisis.

Since April 27, 2011, the Emergency Manager said that they have added many layers of communication due to their experiences in 2011 trying to communicate without power. In order improve their abilities to communication, emergency charging stations have been set up all over campus where students will be able to charge their devices and reconnect to what is happening



on campus. Additionally, according to the Manager of Broadcast Media, more buildings as well as outdoor areas on campus have been outfitted with public address system speakers. There are also digital signage boards in every building on campus that are controlled by Strategic Communications that can display messages. They can also push desktop notifications. The Director for Residential Communities believes more communication structures would have been helpful during this event as there was a period of time where the only way she could communicate with anyone was via Facebook as the phone lines and cell towers were not working.

After something of this magnitude impacts the area surrounding a campus the size, the University of Alabama needs to account for all students in the community, even if the physical campus was not directly impacted. Before this storm, the Emergency Manager said he was working with campus Information Technology (IT) to create a website where students, faculty, and staff can indicate that they are safe in the event of a crisis, allowing this information to be visible to any stakeholder without have to attempt frustrating and unfruitful phone calls that also use up critical personnel resources. This project was not completed before the storm hit, so the campus IT assembled a lite version of this concept overnight and deployed it the next morning to initiate search and recovery efforts. Once the website was live, communications were sent out through all channels instructing students, faculty, and staff to login and provide an update on their safety status. A more robust version of this software was created after the storm recovery had mostly been resolved. Now, visitors can go to the Seek and Find site and search for people by incident and name.

Shortly after April 27, 2011, the University of Alabama hired a new staff member whose sole purpose was to reevaluate all existing response plans on campus. The Assistant Director of

Emergency Preparedness joined the University of Alabama team from Tuscaloosa Fire and Rescue, where he had decades of experience creating and managing the crisis plans for the City of Tuscaloosa. He said he spent the first six months of his position reevaluating the current plans, then began tackling the holes in the plans on a macro level. He also spent a lot of his time looking at different scenarios for various crises, in particular weather events that might strike when there are large amounts of people on campus, such as a football game.

In addition to creating, evaluating, and revamping crisis response plans, the Assistant Director of Emergency Preparedness has spent a lot of his time on training for staff. He has created walk-through scenarios for staff and resources to ensure that the University of Alabama community is well-aware of the crisis plans so that they are able to act in accordance and keep themselves safe in the event of any given crisis. The former Marketing Coordinator for Housing and Residential Communities said on April 27, 2011, she could not have told you anything about the campus crisis response, she was just waiting for directives from her supervisor, the Associate Director for Housing Administration. She said now, not only are departments all trained on campus crisis procedures, but staff from the Office of Emergency Preparedness has met with leadership from each department to help them craft their own crisis response plans that fit in with the overarching campus plans. She says this is a big improvement to the communication structure.

From his experience working with Tuscaloosa Fire and Rescue on April 27, 2011, the Assistant Director of Emergency Preparedness recalls having staff members on his team paying attention to social media due to the high volume of messages that were coming in requesting help throughout the community. There were people who were trapped or in need of safety assistance, but he said the majority of the messages they were receiving during the recovery phase of this

storm were related to missing persons reports. Community members would report that someone was missing, and Tuscaloosa Fire and Rescue would help connect them with the appropriate resources for finding that person. He did not feel this was very effective since many of these people were not directly tagging any specific accounts and therefore the message could very easily be missed.

The Assistant Director of Emergency Preparedness believes there are flaws in using social media as means of emergency communications. In his opinion and experience, because of how the algorithms are set up on social media, it is possible that messages could be sent out and not seen until days later, when they are no longer relevant. The Assistant Director of Emergency Preparedness thinks one way to combat this would be setting up direct notifications within Facebook or Twitter that will create notifications for the user should there be an important message sent out from that account.

Since the storm, the Emergency Preparedness Office developed an app that pushes alerts that come through campus alert systems and integrates social media feeds into the main page of the app, which also lists current weather conditions on campus. One tab where allows the app to use their location to show their proximity to tornado shelters, areas of refuge, emergency defibrillators, and police phones. Another contains all campus safety information. There is also a phone icon where users can easily access the contact information for various campus, city, and state emergency contact information. The Assistant Director of Emergency Preparedness said that they can easily push whatever information needed at the time to this app, including the Seek and Find. He also said the app is beneficial because of its broad availability to any stakeholder. He said this is a step better the campus alert systems that only go out to students, faculty, and staff.

Since there was no housing presence on social media at the time, the former Marketing Coordinator for Housing and Residential Communities said it was very tricky to get any information directly related to housing out quickly. The former Associate Director for Housing Administration believes having social media would have eliminated the majority of the frantic phone calls from parents they were receiving. She believes that if they had been able to send out a quick Tweet or post a short message to Facebook, that a lot of the questions they were getting would have been answered immediately without having to get into contact with someone. Additionally, she believes that if more offices across campus had social media, the diversity of their followers received pushed messaging from the official campus accounts per protocols would have had an even bigger reach than the campus accounts alone.

When asked which communication platform he believed to be the most effective during this event, the Manager of Broadcast Media said text messaging because he believes that all students have smartphones and are usually on them. He believes that social media could be more effective if campus were using it more effectively. He said that right now, many of the campus administrations do not think it is appropriate to use social media for emergency messaging and will not allow offices such as emergency management or campus police to have their own accounts for messaging. He believes the reason for this is because there are people who are not students, faculty, or staff that follow campus social media accounts, therefore using these systems to disseminate information in the event of a campus crisis might cause bad press for the University. He believes that we are in a time where people expect information of this nature to come from social media, therefore they are doing their students a disservice by not providing this information on this platform. He also believes that lack of information dissemination will lead to misinformation, confusion, and potentially more chaos in an already tense situation. He believes

the overall social media presence of the university is good but believes there is much room to grow in terms of crisis communications.

According to the former Marketing Coordinator for Housing and Residential Communities, because of the lack of communication from the university in general throughout this whole situation, the rumors spread quickly. She said the problem was exacerbated by the fact that without power, there was no way for many of the people spreading the rumors to get accurate information, so the misinformation continued to spread as they interacted with people offline in shelters and in other spaces. Additionally, she said, the campus social media reach was not at the level that some of the other sources of the rumors were at, so it did not solve anything when it came to trying to quiet the rumor mill.

The former Marketing Coordinator for Housing and Residential Communities thinks that overall campus communications were effective given the circumstances but believes there is a need to release information more quickly than was the case on April 27, 2011. Since this event, the former Marketing Coordinator for Housing and Residential Communities said the university is much more likely to release pieces of information promising more information today than they were in 2011. She often information was not released because it was incomplete. She believes the university culture has come a long way in not needing a whole story to release information piece by piece. She believes this is more comforting to those who are in search of information and still gives them the ability to guard certain information that is sensitive or needs to be properly vetted and fact-checked. She also thinks that this will help to slow down the spread of inaccurate information because the university can preempt the rumors before they get started.

The former Associate Vice President for University Relations believes it is imperative to get ahead of information so that you can get ahead of rumors. She described an interaction with

the campus Chief of Police where they had to discuss at length how social media has changed reporting. She described his stance as “investigate first, then communicate,” (University of Alabama former Associate Vice President for University Relations, personal communication, January 10, 2018) however she believes that this is no longer valid with social media. She believes that in order to stay in control of a situation, you have to address issues as soon as they arise in order to have any hope at effectively getting ahead of the information.

Both the former Associate Vice President for University Relations and the Director for Residential Communities expressed that they believe that social media is a very valuable tool for communicating, not just for the sake of those on campus, but for those who are not and are looking for updates. They both believe using social media as a tool to let stakeholders know what is happening when their loved ones could be in danger on campus has a calming effect.

Additionally, the Director for Residential Communities also thinks it is very valuable; social media is much faster than any other type of communication strategy that she has ever utilized. She also said that while it is difficult to stay ahead of the message so that rumors do not start up, it is generally easier to manage with fewer people than other ways to communicate broadly.

When asked how events on April 27, 2011 might have unfolded differently today given the evolution of social media in the last several years, the former Associate Vice President for University Relations believes the situation would have been much “messier” (University of Alabama former Associate Vice President for University Relations, personal communication, January 10, 2018). She said back in 2011, there were very few forms of social media to consider, whereas today there are multiple methods that allow students to connect with others even more rapidly than when this storm hit Tuscaloosa. While she believes social media gives you the benefit of being able to instantly communicate with others, it poses the challenge of

incorrect information spreading very quickly, which leaves communications staffs “chasing a rumor” (University of Alabama former Associate Vice President for University Relations, personal communication, January 10, 2018) because anyone can say whatever they want on social media. She believes if social media had been as prevalent in 2011 as it is today, there would have been a lot more rumors that she and her staff would have had to combat to ensure that accurate information was circulating. She said once inaccurate information begins to circulate, you are about two days behind the original rumor, making it very difficult to catch back up.

The former Associate Vice President for University Relations believes that should something like this happen today, the communications staff would have to dedicate time and resources to monitoring what is happening on social media, responding to and correcting inaccurate information. She believes this is an uphill battle however because “inaccurate information is way more fun to believe” (University of Alabama former Associate Vice President for University Relations, personal communication, January 10, 2018) but believes it is very important to be constantly reporting correct information to quell some of the misinformation.

Overall, the Emergency Manager, while not a huge fan of social media, believes that it is the future of communication during a crisis situation as it is currently, in his opinion, the preferred method for students to receive information. The Assistant Director of Emergency Preparedness said that from his experiences, students do not read emails anymore, so administrators must use students’ preferred modes of communication to contact them. He believes this is social media, however he does worry that by the time an organization such as the University of Alabama were to adopt one new social media platform, the students adopt another.

The Emergency Manager believes that social media has completely changed everything about crisis communications as it moves much quicker than communications have traditionally flowed in the past. He said there are a lot of challenges that go along with this, including balancing getting information out quickly while still being accurate. He said there is also pressure to ensure that your messages go out first to prevent misinformation from being circulated, where “a bad situation turns into a tragic situation, or really much worse” (University of Alabama Director of Emergency Preparedness, personal communication, October 13, 2017).

The former Associate Director for Housing Administration believes the social media is a completely “different world” (University of Alabama former Associate Director for Housing Administration, personal communication, October 30, 2017) now than it was in 2011. She thinks that had this happened today, she, as well as a majority of her staff, would have had to spend an extensive amount of time on social media monitoring what people are saying. She said the university has at least two closed Facebook groups for parents that she is a member of, and she said she believes she would have had to do a lot of outreach in those settings in order to ensure that correct information is being pushed out. She believes that there is a different expectation on how they are sending out information because the majority of students would have immediately shared “something they knew, thought they knew, how they felt, on Instagram, Twitter, or Snapchat” (University of Alabama former Associate Director for Housing Administration, personal communication, October 30, 2017). This phenomenon would have immediately generated false rumors based on assumptions and anecdotes before the university even had a chance to provide accurate information. She believes this, along with text messaging, gives students a direct link to their parents, who will then be immediately asking for answers if they are not forthcoming and available instantly. She believes social media does give universities the



power to be more forthcoming with information, but there is still a risk of panic and a need for reassurance.

The former Associate Vice President for University Relations discussed at great length the importance of making sure that students, staff, and stakeholders are properly trained on where to find credible information and which sources are not credible. She said she would like to see more education for students and parents on this topic so that they know where to look for information both during a crisis and routine operations. Additionally, she believes it is important to educate parents on how to not become a de facto intermediary and allow campus to directly communicate with their students, including keeping phone lines open and understanding why it is not appropriate for them to be enrolled in the campus alert systems. She also believes this education could help students and other stakeholders understand how they can contribute to the spread of accurate information, not just stemming misinformation, and do their part to help keep their peers and colleagues safe and appropriately informed via social media. In this same vein, she also stresses the importance of there only being one voice when it comes to getting information out in a crisis situation and believes more education on what that one voice is, where it comes from, and how to appropriately disseminate information from that one voice would be a key contributing factor to accurate communication via social media.

### **Missouri Southern State University**

At MSSU, I was able to connect with four people: the Web and New Media Coordinator, a Social Media Intern, Fire/Safety/Environmental Health Coordinator, and Police Chief. Additionally, I reviewed social media data for a Facebook search for “Missouri Southern State University tornado” and Tweets near Joplin, Missouri between May 22, 2011 and May 23, 2011. There was no official social media presence for the institution when this storm hit Joplin in 2011.

This yielded approximately 1,800 Facebook posts and 60 Tweets, all of which were from unofficial sources. Much like the National Weather Service, much of call for social media communications at MSSU came as a result of this storm.

When asked about the events in Joplin on May 22, 2011, both the Web and New Media Coordinator and the Social Media Intern cited that they were not directly affiliated with MSSU at the time, but they both had ties to the institution, one as an alum, the other as a perspective student. Both stated that they knew that the forecast called for storms that day, but both said as natives to the area, they were very desensitized to the idea of severe weather and were not terribly worried about the weather going into the day. Both stated that they did not really understand the severity of the storm until they visited social media outlets.

The Web and New Media Coordinator described her day as very average until her mom called her and told her to come home immediately because there was a very bad storm in the area. Once home, she began to check social media to see what had happened and realized the level of devastation. She said there was no television and most of the town was without power, so she felt social media would be the best place to get information. She said the majority of her information came from local news outlets and other private citizens. She said the MSSU social media present was not strong at the time, so she did not check it despite knowing that there had been impacts to campus as a result of this storm.

The Social Media Intern says she was still in high school when this storm came through her hometown of Neosho, about 20 miles away from Joplin. She said they her family was listening to the radio after they lost power from the storm. She said she was trying to get on social media to see what was happening, but her data connection was so unreliable that she was only getting small pieces of the story. She said that she felt information had a lot of holes in it

because no one had the full story and information was being “leaked” (Missouri Southern State University Social Media Intern, personal communication, October 20, 2017) out rather than coming from one standardized outlet. She felt the information on social media was better than many other places where news was sparse. She said people “went to whatever kind of communication was consistently coming out,” and for the most part, that was social media. Much like the Web and New Media Coordinator, she mentioned that even though she was affiliated with a local high school, she did not seek out their social media feeds because they were not an established source for information.

The campus police chief, on the other hand, said that he had no idea what was happening when the storm rolled through. He said he knew there were going to be storms in the area, but was expecting thunderstorms, nothing like what came occurred. He says he was at home with his daughter watching television when news of the storm reached him – by then the storm had made it halfway through the town. He said that he did not spend any time on social media during the event because he was too busy trying to manage the shelter that eventually set up on campus to house displaced community members.

When asked which social media platform was most helpful in the aftermath of this storm, both the Web and New Media Coordinator and the Social Media Intern stated that Facebook was the primary source of information. They both felt like this storm took place before Twitter became a relevant option for sharing information. However, when asked what would have been more widely utilized today, they both agreed Twitter would have a much bigger impact. “I think right now, versus 2011, people turn to social media now more than ever. Especially Millennials” (Missouri Southern State Web and New Media Coordinator, personal communication, October 20, 2017) said the Web and New Media Coordinator. She believes that people are more

connected to the internet today than ever before, and more are turning to Twitter because it is the more immediate of the current social media platforms with respect to the algorithms. They also both cite the advances in technology as a contributing factor for society's need for information via social media.

On the contrary, the Fire/Safety/Environmental Health Coordinator states that he believes using the RAVE system was more effective than any other method. He attributed this to a change that he has seen in his time with MSSU, formerly opting in to receiving messages compared to opting out. With that one change, MSSU saw a change from less than 10% enrollment to near 90% enrollment to get campus alerts. The Web and New Media Coordinator as well as the Social Media Coordinator also cite this as a very valuable resource as it goes directly to their phones versus having to check email or go searching for the information.

According to the Fire/Safety/Environmental Health Coordinator, the campus police department is in charge of these messages. He said that he is the one who disseminates information regarding campus crisis events to other offices across campus, including campus police as well as media relations. He said that typically the message he sends out goes out verbatim across multiple platforms, including website updates, the RAVE system as well as social media. He also said that for severe weather, whenever the county surrounding Joplin goes under a tornado warning, the MSSU alert system is automatically activated and the storm shelters across campus are automatically unlocked.

According to the Social Media Intern, this tornado event was a very defining moment not only on campus, but across the country, because of how big of an impact it had. She believes it was a pivotal moment for institutions all over to look at how they are communicating so that they could improve upon what happened in Joplin. In her opinion, this has only been amplified by the

shift to reliance on social media, not only for Millennials, but also for the older generation who might be stakeholders of a particular institution. She believes that social media has become such an important part of how we get information that it has to be a central focus across the board. On the opposing side of the argument for social media, the Fire/Safety/Environmental Health Coordinator discussed in detail that he is not a big fan of social media because he does not feel that it is an accurate portrayal of real life, however he does feel that it is a “necessary evil” (Missouri Southern State University Fire/Safety/Environmental Health Coordinator, personal communication, November 27, 2017) for business and should be used accordingly and appropriately. He said that he feels that social media is a great tool for the Millennial generation because that is how they have learned to communicate but prefers more traditional methods when possible.

When looking through the social media posts throughout the area, the only posts that seem to be officially affiliated with MSSU were in reference to the storm shelter on campus. When asked how this might have been different had social media not existed at the time, the police chief said he believes news of the shelter would have disseminated via broadcast media when they came back online after a few days. He described droves of people walking the streets of Joplin in search of shelter and medical attention, which he referred to as the “walking wounded” (Missouri Southern State University Police Chief, personal communication, October 26, 2017). He said that many of those people eventually found their way to campus and they allowed them into the shelters once they were set up and functional.

All remaining social media posts retrieved were purely from community members describing their direct observations. There were no official messages posted from MSSU during this time on Facebook or Twitter. Since the event, there were messages sent out on Facebook

reflecting back on the event on the yearly anniversaries. As stated in the interview with the Web and New Media Coordinator and the Social Media Intern, the social media efforts have come a long way since 2011, and that is reflected in the review of messages sent since May 22, 2011. Posts related to MSSU were primarily found on Facebook and referenced the shelter that was opened on campus to provide relief to the community after the storm had passed.

### **University of Oklahoma**

At the University of Oklahoma, I connected with five people: the Emergency Preparedness Manager, the University Meteorologist, the Associate Vice President for Strategic Communication, and the Assistant Director for Residence Life. Additionally, I reviewed results from a Facebook search for “University of Oklahoma tornado” and Tweets near Norman, Oklahoma as well as Tweets containing “#OKWX” between May 20, 2013 and May 21, 2013. I also pulled all Tweets sent from @OU\_HRL and @UofOklahoma the between May 20, 2013 and May 21, 2013. I also pulled all posts from the official University of Oklahoma Facebook page from May 20, 2013 through May 21, 2013. This yielded approximately 300 Facebook posts and 10,000 Tweets. The majority of the Tweets were unofficial as they were the result of following the #OKWX hashtag.

On May 20, 2013, staff members at the University of Oklahoma in Norman, as well as the Central Oklahoma community knew bad weather was imminent. The Assistant Director for Residence Life said that going into the day, everyone knew the “sky was weird and it was going to be a bad day” (University of Oklahoma Assistant Director for Residence Life, personal communication, October 20, 2017). She said her Facebook feed early in the day was filled with people talking about what might be coming and getting their supplies in order, but she did not sense that people thought the weather was going to be as bad as it was. She sensed some

desensitization to what could be coming because of their lived experiences as native Oklahomans. At work that day, she had seen messages go out over the campus RAVE system about the day being considered a Particularly Dangerous Situation (PDS) by the National Weather Service Norman office, which is located on the OU campus. She said once the weather started worsening, she watched the devastation on television and knew that the storm would impact people connected to the institution.

The Associate Vice President for Strategic Communication was out of town on May 20, 2013 but was working remotely with her team in Norman because they were expecting a rough day weather-wise. She said they were sending out messages via official OU accounts telling students and staff members to be weather-aware earlier in the day, but administrators did not offer details about what was expected because they did not feel qualified to do so. Instead, she said the messages were referring followers to more official weather sources, such as the National Weather Service in Norman or local news outlets. Upon analyzing posts from Facebook and Twitter from May 20, 2013, there do not appear to be any official messages that went out via the OU social media channels; however when looking through the location-bound data for Tweets sent out near Norman, OK on this day, there are several people that posted messages encouraging their followers and fellow Sooners to be weather-aware, many with links to more official sources such as the National Weather Service in Norman with more information on what was expected from the day.

The Assistant Director for Residence Life said she received word from an Incident Command Center within the NIMS structure that they would be opening the residence halls to house those who had been displaced by the storm. Students had just moved out for the summer and there were no camps or conferences in those spaces yet. She said before they were

completely set up and ready to start accepting people, there were already hundreds of people outside waiting and even more calling their office for shelter. She was unsure what had happened at the time but found out a few days later that a graduate student she supervised posted about the emergency shelters on her Facebook page; it was re-posted several thousand times and was eventually picked up by the news.

Once it was clear just how large an impact this storm was going to have on the campus community, the type of communication structure shifted dramatically. The Assistant Director for Residence Life said at first, a lot of their communication was “home grown” (University of Oklahoma Assistant Director for Residence Life, personal communication, October 20, 2017) and came from within. Once people from the community started showing up on campus and it was clear that the situation was much bigger than when it started, she said they got into contact with and involved Public Affairs and let them handle official communication from there. Additionally, once the Red Cross and FEMA arrived on campus, they took over communication for the most part from Public Affairs.

This is also evident from the messages that were going out via social media. When looking at the social media data available from this day, a Facebook search of “University of Oklahoma tornado” results in dozens of pages full of people reposting the initial message before it gets posted by the official University of Oklahoma webpage a few hours later. The Assistant Director for Residence Life said that while everyone was aware that people were showing up already, the official sources just posted the information when they knew they were ready to have it officially out there, even though it had already been out for several hours at this point. Once the official message was posted on Facebook and Twitter, it was shared over 2,000 times on each platform.



According to the Emergency Preparedness Manager, a couple hours after the storm had passed and the scope of the damage became evident, she was in a room with the President and some other high-ranking campus officials, talking about the possibility of opening up a shelter on campus. She said they had not yet made a concrete decision on whether to implement the idea or how to do so before people started to show up on campus seeking shelter. She said she is unsure how it happened, but knows the media was told this was happening before it was official, so they had to make decisions on the fly about how this would work.

Typically, the Associate Vice President for Strategic Communication expects that all official communications from departmental accounts is vetted through her team before posting. This is to ensure that the official OU social media channels are not only aware of what is happening, but also that they are the first to post the information. She said that information cannot be considered “official” via social media until her office has posted it. Once the initial communication has gone out, there is the expectation that the first line of communication via social media will then return the department who initiated the message as they are the ones who are most involved with the content and would be best equipped to vet questions. The Associate Vice President for Strategic Communication would work closely with campus partners to help send additional, more general messages out on their behalf when needed. This protocol can be seen in action on both the official OU Facebook and Twitter pages. After the initial messaging went out about sheltering those displaced from the storm, there were several posts on both platforms with more information about where to find shelter, how to volunteer, and what donations were needed, each with links back to the relevant sub-accounts, such as Housing and Residence Life and the Office for Leadership and Volunteerism for more specific information.

If communication goes out via the sub-channels without approval from the Associate Vice President for Strategic Communication, she said her team will reach out to that office and monitor the chatter that is happening to ensure that proper information is going out on behalf of the university. She also recalls that follow-up conversations have needed to occur to refresh departments and administrators on communication protocols and policies. She does make it very clear that she wants departments to have ownership over their accounts so that they feel empowered to communicate the things they need their followers to know, especially once the initial messages have been sent and they become the experts on the subject.

Prior to this storm, there was a lot of confusion about where messages should be coming from and who should be sending them out. The Assistant Director for Residence Life admits that when this was all happening, she could not tell you who was responsible for sending information out via the campus RAVE system, however that has changed a great deal since then. On May 13, 2013, ten days before this storm hit, the University of Oklahoma hired their first Emergency Preparedness Manager. Now that this position is more established, it leads the OU Emergency Response Team and would be the one in charge of sending out messages via the RAVE system, something that is now much more known than at the time of the storm.

According to the Associate Vice President for Strategic Communication, when messages go out via the RAVE system, they are automatically posted to social media as well. She said her team monitors the system and ensure messages posts properly. They are prepared to post these messages directly in the event that the system fails. Additionally, she said her team coordinates with Public Affairs, the President's Office, and campus police on disseminating messages. She said the text of the messages will be written by the President's Press Secretary and then disseminated via social media channels and the campus website. They will then follow up with

other social media posts, including periodic posting every twenty minutes with or without new information to let followers know the situation is not being ignored. They also constantly monitor incoming comments and messages; however, they do not have the capacity to reply directly to every message. If they notice themes coming through, they will send out additional messaging to address questions and concerns. The Associate Vice President for Strategic Communication also said that the community is good at answering the questions of other followers with very accurate information. Once an all-clear is issued, they will post that notification as a comment on the original post on Facebook and as a reply to the original Tweet on Twitter as well as creating a new message to ensure that the amount of people who see the message is maximized.

After the event, to ensure that future incidents would run more smoothly, the Emergency Preparedness Manager and her office conducted an *After-Action Review* where they examined how the event was handled as a whole. This included examination of processes and an assessment of all of the buildings on campus to determine suitability as a potential storm shelter. The Emergency Preparedness Manager stated that campus is not an official shelter, but people have been coming to campus for years for shelter from severe weather. Recognizing the need to create more space for shelter, five tornado shelters were built to serve students who live in the residence halls as they have nowhere else to go in the event that campus closes for severe weather. This information is now communicated out to students, faculty, and staff as well as community members when a storm is possible to ensure that everyone knows where they can go to be safe in a storm. She said since this event, there is now protocol in place for campus to close for severe weather threat, much like it does for other inclement weather, such as snow or ice. According to the Associate Vice President for Strategic Communication, she has always been

concerned for her staff in these situations and would prefer that they are in a safe location should campus be compromised so they can communicate on behalf of the university from anywhere.

Another change implemented following the after-action review was the establishment of a University Meteorologist for campus. As mentioned previously, according to the Associate Vice President for Strategic Communication, on May 20, 2013, the official OU social media accounts did not send messages containing any actual weather information because they did not feel qualified to do so. According to the Associate Vice President for Strategic Communication, “one of the best changes that came out of this is that we’re able to communicate with students directly about what’s happening on our campus in a weather situation” (University of Oklahoma Associate Vice President for Strategic Communication, personal communication, December 13, 2017). Having a qualified meteorologist now allows them to be more specific about what followers should be expecting from the weather. The Associate Vice President for Strategic Communication said this has also been very helpful because the meteorologist can provide a bit more location-specific information, which helps people who are not native to the area understand proximity to the storm in lay terms. While the official channels are still referring their followers to the account for the staff meteorologist who posts information about the weather daily, they are able to provide a more specific information when it is pertinent to their safety. The Associate Vice President for Strategic Communication said they continue to refer out because they do not want their followers to become desensitized to the account due to too much irrelevant information.

The current Emergency Preparedness Manager says the University Meteorology served in this role in an ad-hoc capacity on May 20, 2013, but no formal communication protocols existed, so his talents were not used as effectively as they are now. According to the University

Meteorologist, he had left campus early to position himself on the back side of the storm so that he could watch the trajectory it was taking in relation to the location of campus. He said this helped him determine that the course of the storm was not going to pose a direct threat to campus relatively early in the afternoon. He believes that this near-miss to the University of Oklahoma campus has completely changed attitude of campus officials regarding severe weather threats. While he is sad for the loss of life that happened on May 20, 2013, he believes that the changes that have been made on campus moving forward carries the potential to save many lives in the future.

The University Meteorologist said in the aftermath of the May 20, 2013 storms, he did a “cost estimation and loss of life estimation” (University of Oklahoma University Meteorologist, personal communication, January 2, 2018) where he moved the track of the storm south nine miles, having direct impact on the residence halls on campus. By showing the impact this could have had to the University of Oklahoma campus, campus administrators realized how under-prepared they were for an incident of this magnitude and made changes to address deficiencies, including the creation of the University Meteorologist position by June 2014. According to the University Meteorologist, as the only person in his position, he is constantly on call to provide real-time weather updates and support for campus events.

The Emergency Manager said having a meteorologist on staff allows essential staff members to get weather alters prior to official watches or warnings being sent out by the National Weather Service. The Assistant Director for Residence Life said this will usually give her and her staff an extra 10 to 15 minutes to get students into shelters before tornado sirens blare and official warnings are issued. She said this is essential given that most of their facilities house nearly 1,500 students in each building and properly sheltering them takes some time. By getting

this process started earlier, staff can alleviate some of the panic and chaos that was witnessed before. According to the University Meteorologist, these messages will go out via text message to those who have a need to know before the rest of campus and will also be disseminated via the campus RAVE system as well as on the @OUemergencyprep Twitter and OU Emergency Preparedness Facebook page, neither of which existed on May 20, 2013. The University Meteorologist said that the social media accounts are secondary to other alert systems and are mainly used for less severe, day-to-day weather threats, however they will contain weather information, with a time stamp. Messages will include information about when campus will be at direct risk and how long that risk will last.

According to the University Meteorologist, messages that go out via the Emergency Preparedness accounts are not automatically picked up by the official University of Oklahoma accounts. He said that he will have direct contact with whoever is running the accounts to let them know they should be paying attention so that they can re-post the information coming from his account. He said that this poses a challenge today as the people running social media operate by committee, meaning the responsibility of managing the campus accounts works like an on-call rotation, so he does not always know who to contact. He believes this is helpful because managing several accounts alone is a lot of work when it is not a position's primary function. However, this arrangement causes confusion when trying to figure out who the call to action should be going to at the start of a severe weather day.

Additionally, should something like the 2013 storm happen again, the Emergency Preparedness Manager believes the flow of the day would work much differently. She said there would be meetings in the days leading up to the event, as well as the morning of, ensuring that everyone is aware of what is coming and what must be done should a storm come near campus.

With the community reliance on campus as a storm shelter, the Emergency Preparedness Manager's office has created a position called a *Severe Weather Coordinator* for every 250 people that can be sheltered in a particular area. These coordinators serve as the point people for their given area and ensure that everyone in their care are getting information being sent out across campus and that they are following rules to ensure their safety. While these positions are volunteer, they are required to check in and out with the Emergency Preparedness Manager because they get paid should they get enacted. They are also required to attend multiple training sessions and demonstrate ability and willingness to serve in the position.

The Associate Vice President for Strategic Communication also reflected on how this event has impacted the work of her team. She said up to this event, all situations that required social media coverage have occurred over a couple of hours and have been resolved at the conclusion of the event. May 20, 2013 was very different as her team did not see a swell of social media attention until a couple of days after the storm when people started to contact campus to volunteer and for shelter. She said this also lasted several weeks beyond the storm itself which really impacted the way her team was interacting on social media to ensure that the proper tone and messages were being sent out well after the initial impact had occurred. The data from social media posts also confirm this pattern. A majority of the posts prior to the storm, during the storm, and immediately after the storm were all community driven. Once word starts to spread that OU will be hosting those displaced by the storm, users began directing more queries and comments to the university. Once the official word goes out via the official OU social media channels that OU will become a shelter, the posts become more driven by the university itself, still with a great deal of community input. This pattern continues for several days after the storm as the university works to coordinate relief efforts in the community.

After some of the chaos caused by the storm subsided, the Assistant Director for Residence Life talks about her personal interactions with social media. She said by the time she was able to check her accounts, she had several notifications from her friends and other connections making sure she was ok because news of this storm spread nationally. She also said it was through social media that many former students and employees were able to see what was happening and were able to contribute from where they were. Some organized donations that they brought to Norman, others called in orders for food for the Housing and Food Services staff to ensure that they were getting fed amidst the amount of work that was being done. The Assistant Director for Residence Life believes this would not have been possible had it not been for social media. She did mention that she was very careful when posting not to mix personal with professional and was posting mostly messages about being safe and busy, but never put anything work-related on her personal accounts because she did not believe that would be appropriate.

Looking back, the Assistant Director for Residence Life cites a need for better training for staff members on handling emergency weather situations. She mentioned that she was the highest-ranking Residence Life employee on staff, however she had not been training in the NIMS protocols nor did she have any contacts with the emergency management staff prior to this event, so that caused a great deal of confusion. She believes that while she was still probably following proper protocol, she was not doing it according to any sort of plan, just doing what she felt was appropriate to meet perceived expectations from upper administration. She also mentioned that it was never explicitly stated to her graduate and student staff that they are not to speak on behalf of the university before they do, hence why the Facebook post offering shelter went out via a personal Facebook out before the university was ready to release that message.



She believes that had they been more explicit with their staff prior to this incident, the breach of protocol and early dissemination of information would not have happened.

Since starting her position shortly before May 20, 2013, the Emergency Preparedness Manager said she cannot overstate how important it has been to have campus-wide support for keeping campus safe. She said that campus administrators are very involved with her goals and that helps the rest of campus buy-in as well. Gaining the support of faculty proves to be the most difficult challenge she faces because she needs them to be the ad-hoc severe weather coordinators until the proper system can be activated. She wants to see emergency preparedness built in to training for all faculty, staff, and students when they first arrive on campus. She believes that by having training and drills, “it would lower their fear factor” (University of Oklahoma Emergency Manager, personal communication, November 29, 2017) in certain situations.

According to the Associate Vice President for Strategic Communication, the emergency communications plan at OU is very polished, but all plans must be adapted as needed in specific, real situations. The University Meteorologist echoes this sentiment in his opinion that all plans are created to be broken during a critical situation. The Associate Vice President for Strategic Communication believes that because of this situation and the impact social media had on the recovery efforts for this storm as well as campus, that more people on campus are now starting to take social media more seriously as it related to overall campus communication plans. She believes that social media plays a very important role in a crisis when communicating with student, faculty staff, and stakeholders, but feels this situation helped many of the skeptics on campus have a change of heart regarding social media.

While the University Meteorologist provides campus with a strong social media presence via the OU Emergency Preparedness accounts, he believes that Facebook is a “terrible tool in emergency management” (University of Oklahoma University Meteorologist, personal communication, January 2, 2018) because the algorithms it employs do not guarantee that time-sensitive information is seen by everyone immediately. He believes Twitter is more reliable because their platform has tools to ensure that you are receiving notifications, however he does not feel that the current 5,500 followers is enough to ensure proper dissemination of information. He believes social media is more of a novelty service and always supplements information about actual threats in other ways. He does acknowledge flaws to other modes of communication, such as the campus RAVE system, because of the amount of time it takes to get information out via those channels. He believes that it is important to be very site-specific with these messages, so there is potential that they will be clearing shelters on campus while the sirens for the City of Norman will still be going off because the direct threat to campus has passed. He also said that all information coming from his office will begin with “OU Alert” to distinguish the information he is sending out to campus from the messaging going out from the cell towers and the National Weather Service.

When asked what, in his opinion, would make social media a more reliable tool to issue campus alerts, the University Meteorologist said that he wishes campus had their own, internal social media network to cut down on a lot of clutter that makes it difficult to find information on users’ news feeds. He believes that such a network should still be a service that users opt into but believes a lot of messages get lost in a sea of all the other information users are having to sift through. Additionally, he believes using shortcodes where people can text a word to a number to enroll in an alert system would be a very effective way to disseminate information. He reports

that this technology has already been tested during football games when the campus hosts hundreds of thousands of people who would not be getting campus alerts otherwise.

Additionally, since the May 20, 2013 storm, the University Meteorologist said there are now plans in place to take down the University of Oklahoma website and replace it with an emergency alerts page supported by a larger server so that it does not crash due to high traffic. He said all campus websites will be directed to this one page so that all information can be run through this one location. He said campus Information Technology can also control all devices connected to the University of Oklahoma internet, both wired, and wireless should an incident arises requiring information to be disseminated quickly,

When asked how this event might have been different had social media not been around to play such a large role in drawing people to campus, the Assistant Director for Residence Life believes that people would have still gotten to campus for shelter in this case, it just would not have happened as quickly. She thinks they would have been relied solely on cable news networks informing the public. When asked how events might unfold differently now, she thinks the spread of information might be even faster and believes Twitter would have been the platform that was used, not Facebook. She believes that someone as connected as the graduate student who sent out the message could have sent out a Tweet about this information and it would have gone viral in minutes, far surpassing how quickly it spread via Facebook in 2013.

In the aftermath of the storm and this entire situation, the Assistant Director for Residence Life said she felt very good about how everything was handled and believes that while they might not have followed protocol completely correctly, that they made the right decision to do what they did. She said the only other time when OU's social media garnered the same amount of attention as it did for this event was when a video of a member of the Sigma Alpha

Epsilon fraternity at OU chanting racial slurs on a bus went viral in 2015. She believes that these two occurrences are perfect examples of how “social media can be used for good or it can be used for evil” (University of Oklahoma Assistant Director for Residence Life, personal communication, October 10, 2017). She also believes that “we can’t throw out social media because it does good things. But it’s not inherently good. It also does bad things but it’s not inherently bad” (University of Oklahoma Assistant Director for Residence Life, personal communication, October 10, 2017). She thinks there is a real need to help society learn how to harness this power of social media and there needs to be conversations happening everywhere regarding this issue.

She also thinks, at a base level, that there needs to be training for all students on responsible social media usage. She said there is already much consternation about how social media activity can haunt youth years later with future employers, but she does not feel this is any different than a future employer calling someone from your hometown to ask about you. She thinks there is more to it than that and at the root of it is a behavioral issue on how social media is being used. She does not believe we should be silencing people on social media, quite the opposite in fact. She believes however that we do need to be teaching people how to behave properly in order to influence their presence on social media moving forward.

### **Florida State University**

At FSU, I was able to connect with two people: the Assistant Director of University Housing for Facility Services and Administration & Conference Services and the campus Chief of Police. I was in contact with the staff in University Communications who are responsible for social media, however they were not interested in participating in the study. When searching for contacts to interview, I was unable to find anyone in the Emergency Manager position and later

found out during the interview process that the position has been vacant since the resolution of Hurricane Hermine. Additionally, I reviewed social media data for a Facebook search for “Florida State Hermine” and Tweets near Tallahassee, Florida between September 2, 2016 and September 3, 2016 when the storm made landfall. I also pulled all Tweets sent from the following accounts between August 30, 2016 and September 10, 2016: @HousingFSU, @floridastate, @FSUParking, @KeepFSUSafe, and @FSUAlert. I also pulled all posts from the FSU Alerts and FSU University Housing Facebook pages from August 29, 2016 through September 3, 2016. This yielded approximately 300 Facebook posts and 600 Tweets. Finally, when I requested a copy of the communication plan for campus, I was directed to a public website that outlines Florida State’s Social Media Strategy for use in my analysis. Additionally, an attempt was made to locate the archived website updated and messages that would have been sent through the campus alert system, however that information was never made available due to lack of response across campus to multiple requests for information.

In the event of an emergency or crisis situation on campus, the Chief of Police said he would be the one in charge of setting up an Emergency Operations Center (EOC) in line with NIMS standards on campus. This team is made up of key officials across campus that are instrumental in keep people safe on campus. He said once those people come together, it is their responsibility to craft and send out the messages to campus via the FSU Alerts accounts. He said that most messages that contain pertinent, time-sensitive information come out within a few minutes. He believes that the information communicated out during Hurricane Hermine was very effective given that there were no injuries or loss of life for students or staff members. He credits the messaging that occurred before the storm even made landfall for this as thousands of students sought shelter elsewhere rather than staying on campus to ride out the storm. After the storm

made landfall, the messaging became more directive on how to stay safe during the storm until it passed. This is seen clearly on the posts from the @FSUAlert account on Twitter as well as the FSU Alerts Facebook page as both of those accounts start encouraging students to go home or to another location away from campus several days before the storm is set to make landfall in Tallahassee.

When analyzing the messages sent out via the account the Chief of Police references, @FSUAlert, the messages prove to be directive, and informational. The bulk of the messages send out contain clear and concisely worded messages giving students and other followers direction on how to stay safe should they still be on campus. There was also a great deal of weather alerts sent out throughout the time period analyzed, each with an in-message time stamp and clear information about where information could be found. There are no posts that interact directly with followers on Facebook or Twitter, which is consistent with the Chief of Police stating that they did not have time to engage with social media beyond the messages being send out initially due to the other responsibilities the people present in the EOC. When asked which platform he felt was most effective, the Chief of Police stated Twitter was more widely used and engaged with from his perspective.

The Assistant Director of University Housing for Facility Services and Administration & Conference Services emphasized that Hurricane Hermine was unprecedented for the Tallahassee area. She said she had lived in Tallahassee for over 10 years and had never seen anything like it, which she indicated was a big part of how campus prepared for the storm to make landfall. At the time, she oversaw all social media efforts for University Housing but has since transitioned out of the role.

Due to the level of uncertainty surrounding this storm, the Assistant Director of University Housing for Facility Services and Administration & Conference Services said that she worked very hard to ensure that as soon as she had information, she was sending it out on the accounts she oversaw. She also said that she made sure her accounts were all following the official campus alerts accounts, such as @FSUAlert. She said she felt this was very important because she wanted to make sure that everything she sent out was aligned with what was going out via those channels. At first, most Tweets referred followers to the FSU Alerts page as they are the main communication of the university. She said that she also received instruction from the Office of Communication to “try not to send any messages that are not coming from alerts” (Florida State University the Assistant Director of University Housing for Facility Services and Administration & Conference Services, personal communication, September 22, 2017). She said that she tried to maintain that stance, however she felt obligated to reply to the massive number of messages and comments coming in to her accounts. She said a majority of her time during this storm replying to comments and messages from parents worried about their students. In fact, once most residential operations were restored, she said she was still receiving requests for information from parents, many whom did not have students who lived on campus but were unable to find information elsewhere.

When analyzing the messages sent out from University Housing across Facebook and Twitter, the sheer volume of information sent out compared to other places on campus is much higher. Each of the messages that received comments and questions were replied to within a short time frame. Most information pertains to University Housing, including information about meeting and program cancellations, and locations for students to find relief and entertainment.

These accounts also periodically refer students back to @FSUAlert for more information rather than re-posting any information that might have been posted originally on that account.

The Assistant Director of University Housing for Facility Services and Administration & Conference Services said she received feedback after the storm that the account she was managing was the only account across campus and in the surrounding community that was providing information throughout the storm. She said she even received a phone call with the pending landfall of Hurricane Irma the following year saying that she was not as worried about her student on campus because of how well informed the University Housing accounts kept her the previous season. She also received feedback that stakeholders were messaging University Housing with questions about other areas because they could not find answers otherwise.

During the storm, while she was not on campus, the Assistant Director of University Housing for Facility Services and Administration & Conference Services spent a great deal of time on social media from her home (and her car once she lost power) keeping the accounts up to date. She said, “If I was awake, we were responding” (Florida State University the Assistant Director of University Housing for Facility Services and Administration & Conference Services, personal communication, September 22, 2017) in regard to the mass amounts of messages she was receiving during this event. She said things were changing very rapidly and she received hundreds of update messages from her supervisor from the start of the storm through the time campus was back open. Throughout her time working with social media, she operated under the understanding that it was better to be ahead of something, so she shared as much as she could in order to accomplish this. She said she tried her best to always to respond to people requesting information, no matter what the circumstances. She said that she did run into a bit of trouble once everything within University Housing had been resolved with requests for information



outside of the Division of Student Affairs. She said that she only retweeted messages from accounts such as FSU Alerts because she did not feel that a lot of information coming out elsewhere on campus would be relevant to her followers. When asked what platform she saw the most action through, she said Facebook because of the interactions with concerned parents.

When asked what strategies or policies she followed when managing this account, the Assistant Director of University Housing for Facility Services and Administration & Conference Services pointed me in the direction of the Florida State Social Media Strategy document online on the University Communications website. This document dictates that all actions on social media should be done in a way that enhances the brand of the university and maintains the “high quality of Florida State’s social media presence” (Florida State University, 2017). It also encourages the integration of social media into the other marketing and communication strategies for the office being represented. The document does make a note about consistency across the institution itself, claiming that the “whole is truly greater than the sum of the parts” (Florida State University) in order to provide a cohesive picture of social media across campus. Outside of this one-page document, the Assistant Director of University Housing for Facility Services and Administration & Conference Services said that she received no other official guidelines and allowed liberty to send messages out on her own with no vetting required.

When I asked the Chief of Police the same questions about written policies or procedures for communications during an event like this, he also stated there was no formalized protocol. He stated that his goal is to always provide timely information on what is happening across multiple platforms: website updates, social media, text messaging, and email. He also discussed in detail the importance of being prepared for anything during these situations, including loss of power as was his experience during Hurricane Hermine. He stated that there is still an expectation of

service that still has to be met despite external factors. For an event like Hurricane Hermine, the Chief of Police said, “you’re at the mercy of the storm” (Florida State University Chief of Police, personal communication, October 16, 2017) and have to plan for everything and have multiple plans in place in the event that something changes.

After the storm the Assistant Director of University Housing for Facility Services and Administration & Conference Services said that she spent a lot of time trying to connect students and community members with resources both on and off-campus. She said “comfort stations” were set up in various halls on campus so that people who did not have power could come in, cool off, charge their devices, and relax. She also said that due to the storm, Florida State had to cancel two football games, so she helped coordinate and communicate efforts to redistribute supplies for the game, such as hot dogs and water, back into the community. She said that one of the highlights of this event was when student athletes came together to serve the food that was originally supposed to be sold at the football game to the community. She used social media as a platform to advertise and document these events.

Since transitioning her responsibilities with social media for University Housing at Florida State, the Assistant Director of University Housing for Facility Services and Administration & Conference Services said that the current overseer is not considered essential personnel and is not allowed to work when the university is closed. She said she is also still in a lot of the social media groups on campus, so she was able to see messages explicitly stating during the lead up to Hurricane Irma that departments and offices should not be sending out any messages of their own and that all information should be running through FSU Alerts. The Assistant Director of University Housing for Facility Services and Administration & Conference Services also expressed that she feels there would be a much more stringent vetting process for

the person coordinating social media for the department now as they do not have the level of experience that she had while in the position so they would not be able to field as many questions on their own as she was able to.

The Chief of Police also discussed an assessment that his office conducted after this event in order to better prepare for future events. The assessment was a short survey sent out to community partners and students who lived in the residence halls during that time. He said the feedback they received as well as the changes made were very beneficial as Hurricane Irma impacted campus nearly a year later. He said the biggest takeaway from this is that the respondents did not feel they were left in the dark or were missing information as well as the need for more staff in the EOC to make all operations run smoothly. He did not indicate if this assessment was only regarding @FSUAlert or all social media as a whole across campus.

The Chief of Police believes a social media presence is necessary these days and cannot be ignored. He thinks stakeholders expect it, and the university has the responsibility to use it effectively. He believes that it is a good way to communicate with everyone, not just students, as faculty and staff as well as parents engage with social media regularly and it is a good way to ensure that everyone is connected. He also believes that it plays a very large part in the overall communication structure on campus that includes messaging across multiple platforms to ensure the widest reach. He also discussed the importance of involvement from top administrators when creating and implementing an effective communications strategy. He said at FSU, everyone at an administrative level is engaged throughout the entire process in regard to a campus crisis situation. He said that they are the ones who ultimately have to make the hard decisions and are very hands-on in the work they do when it comes to keeping students safe and ensuring they have the most up-to-date information possible.

## **Chapter Summary**

Through the implementation of this study, I was able to observe many different methods for effectively communicating during severe weather events on college campuses across the United States, as well as some shortcomings with the nature of social media as it pertains to crisis communication. Social media engagement is a clear expectation of students and other key stakeholders during events such as severe weather on campus. Several methods exist for accomplishing this, and there is still much to be learned as social media continues to evolve.

## **CHAPTER 5: DISCUSSION AND RECOMMENDATIONS**

The purpose of this study is to explore how college campuses have utilized social media to communicate during past severe weather events and how that aligns with established social media plans as well as identify best practices for social media utilization and provide recommendations for social media strategies to be implemented into current crisis communication plans. This chapter will discuss the best practices observed across the four institutions selected for this study and will provide recommendations based off of those observations for campuses to implement into their current crisis communication plans.

### **Study Overview**

The purpose of this study is to explore how college campuses have utilized social media to communicate during past severe weather events in order identify examples of best practices in social media utilization on college campuses and provide recommendations for social media strategies to be implemented into current crisis communication plans. Through a qualitative case study, data was collected across four different institutions: the University of Alabama in Tuscaloosa, Alabama regarding the tornado outbreak on April 27, 2011; Missouri Southern State University in Joplin, Missouri regarding the tornado outbreak on May 22, 2011; the University of Oklahoma in Norman, Oklahoma regarding the tornado outbreak on May 20, 2013; and Florida State University in Tallahassee, Florida regarding Hurricane Hermine in September 2016. For each institution, posts from Facebook and Twitter following specific parameters for each case were analyzed. Additionally, interviews with campus social media managers, emergency managers, police chiefs, and residential life personnel for each of the institutions were requested. Specific information will be given in each section regarding who was reachable and willing to participate in an interview. Finally, other information, such as public communication guides and

messages sent out over emergency alert systems are included in the sections below where available.

## **Research Questions**

In order to properly examine the phenomenon of how college campuses are using social media during severe weather events, this study examines the following:

- Research Question: How have college campuses utilized social media during severe weather events on or near campus?
  - Sub-Question: Where does social media fit within overall campus communication plans already in place?

## **Significance of Study**

This topic emerged as a topic of interest after the May 20, 2013 tornado that passed approximately 10 miles north of the University of Oklahoma's Norman campus, completely devastating Moore, Oklahoma. The University of Oklahoma did not sustain a direct hit, however because of a social media post that went viral from an unofficial source, community members showed up in large numbers before campus was prepared to shelter them. After observing this event, I wanted to explore the implications of the use of social media on college campuses (both official and unofficial).

Additionally, after spending time in the literature on this topic, it is clear that campuses are experiencing crisis situations, however, the amount of literature on university response to severe weather events, which directly impact campus, or the surrounding area, is very low. With respect to the information available, this study fills in some of the gaps in the literature on the inside perspective of how social media is being used on campuses during crisis situations as well as draw the parallels between generic campus crises and severe weather events.

## **Summary of Major Findings**

**University of Alabama.** It was clear several days in advance that April 27, 2011 was going to be a historic day with potential impacts on the University of Alabama campus. The Office of Strategic Communications began communicating this risk out to students several days in advance, and on the day of this storm. During the storm, messages were sent out to students, faculty, and staff that were very directive and cited direct information from the National Weather Service office in Birmingham. Despite attempts to get information out quickly, there were still rumors spreading across campus, the community, and the country as people became desperate for information. This included a premature announcement of a student death before the family was properly notified.

Since 2011, many changes have been made, including more layers of communication as well as staff members dedicated to operating social media. Additionally, the emergency management office has been expanded to include a position whose sole purpose is to review and revise campus crisis plans and train staff and students on how to keep themselves safe during campus crisis situations. They have also created several online tools and apps to help communicate during a crisis situation. Many believe that things would have been different had there been more of a focus on social media at the time. While many things have been implemented since the storm, there are still staff members on campus who believe social media could be used a lot more than it is being used now. Many believe that there are definitely flaws in how social media actually works during a crisis situation, they still believe that sending something out would be better than being silent and allowing people to create their own information.

**Missouri Southern State University.** Much like at the University of Alabama, the people I spoke with at Missouri Southern State University were aware that there would be severe weather on May 22, 2011; however, they were completely unprepared for what ended up happening. Social media was still a very new platform at the time of this storm, and as a small school, they had not created any of their social media accounts. The people I talked to did cite social media as their main source for information, as other sources were very spotty due to the lack of power across the city.

Social media is only a small part of the overall communications strategies for the university. Information tends to flow top-down, where messages that need to be sent out are communicated to staff from higher positions on campus. As MSSU has grown, so has the need for a social media presence on campus. Several positions have been created to help with this, however it is clear that a lot was lacking from their communication potential at the time of this storm. Because of this, campus officials took notice of the difference social media communications could have made on this day and have implemented many new strategies as a result. As this storm was pivotal for the National Weather Service to develop their own social media presence, this storm was also pivotal for establishing the need for college campuses across the nation to really look at the services they are providing via social media so they can better reach their students.

**University of Oklahoma.** Much like the previous storms studied, students, faculty, and staff at the University of Oklahoma knew May 20, 2013 was going to be a very active weather day but were not prepared for what occurred less than 10 miles north of campus. Something very unique about this case and what originally drew me to this topic in the first place is how the message spread that OU Residence Life was opening up a shelter. Before they even had



everything set up and official, there were hundreds of people on campus seeking shelter. Several days later, they found out a graduate student sent out this message via Facebook and Twitter before the official message went out from the University.

Since this storm, many measures have been taken on campus to better prepare for future weather events of this nature. Prior to this storm, there was a great deal of confusion about where official messaging came from in a crisis situation. These protocols have been further solidified, and staff are better trained on this subject. A thorough “After-Action-Review” was conducted on campus, and many suggestions from this have been implemented, including closing campus for severe weather threat, much like many campuses do for winter weather. Additionally, since the storm, a University Meteorologist has been hired for the University of Oklahoma campus.

While many do not believe all forms of social media are effective during an emergency situation, it is clear that university officials at the University of Oklahoma are paying more attention to social media and the impact it can have on campus. In the aftermath of the weather event on May 20, 2013, as well as a video that went viral at the University of Oklahoma where a member of the Sigma Alpha Epsilon fraternity was filmed chanting racial slurs are two major events where OU got national coverage because of something that happened on social media: one being very positive, the other being very negative. There is consensus at OU that social media is a great platform for sharing information and personal opinions; however, with that there is a need for students, faculty and staff to really understand the power of social media and how their actions in such a public forum can have a much larger impact than they realize.

**Florida State University.** Florida State University was a unique case compared to the others in this study because it deals with a hurricane impacting campus instead of a tornado. This is also a unique case in the amount of push back and lack of participation I experienced when

gathering data. Because of this, while I was able to obtain some useful information, I do not feel that the results from this institution are as conclusive as those from others.

While I was unable to find anyone willing to speak with me who was directly responsible for the official Florida State social media accounts, I was able to connect with someone in University Housing who ran the social media accounts for the residence halls during this event. She says she started out just re-posting and re-tweeting information sent out by the accounts the chief of police runs, however it quickly morphed into more than that as the storm proceeded. She is the only person out of all of those I interviewed who says she directly engaged with followers on social media by replying to comments and questions they posted.

Both the police chief and the University Housing staff member agree that social media is not something that can be ignored and believe that their interactions with social media during Hurricane Hermine in 2016 better prepared campus officials for Hurricane Irma in 2017. This was evident when interviewing both of them as they volunteered a great deal of information on how things ran much more smoothly and differently the next time around across many areas of campus.

## **Discussion**

After conducting this study and analyzing the data collected, some themes and common practices were discovered. The social media posts followed a very common pattern across each of the institutions studied. Additionally, there were many common themes that were established through the interview phase of this study, which will both provide suggestions for best practices for social media usage during severe weather events on college campuses as well as demonstrate some pitfalls that should be avoided in the future. The cases highlighted in this study provide a

snapshot of how social media has evolved since the first cases presented in 2011 to the most recent case in 2017.

## **Social Media**

Through reviewing all of the information that aggregated across Facebook and Twitter for all four institutions, I was able to code the information according to the following themes: general information; cancellations and official university messages; weather information; official campus directives; volunteerism information; and user-generated information. These were verified when interviewing campus social media managers during the interview phase of this study. These categories were fluid across all institutions considered in this study, all from official campus sources except for Missouri Southern State University, which did not have a social media presence from campus until after the storm.

**General information.** The general information category includes information that is generalized to campus but is not related directly to impacts from the storm. Many of the messages that were included in this category were observed prior to the storm's direct impacts on campus or after the storm as campus operations were returning to normal. Many of these messages also included complements to various members of campus staff, highlighting how hard they were working to take care of students and staff members on campus as well as thanking students, faculty, and staff for being patient through an evolving situation. This category also included call outs for information from news sources affiliated with campus, asking people who were impacted by the storm to reach out for stories.

**Cancellations and campus information.** The cancellations and campus information category is exactly as it sounds: information from official campus sources giving students, faculty, and staff information about campus cancellations and other announcements on campus.

This includes cancellations that happened prior to the onset of the storm as well as suspension of campus services after the storm until ordinary operations were able to resume. Additionally, this category provides students, faculty, and staff with information about where to find services amidst various cancellations across campus, including where to find food, entertainment, and power. This category, in many cases, also provided information to concerned parents and other stakeholders seeking information about their students and referred them to outlets where they could find any other information they were seeking.

**Weather information.** The weather information category was also very straightforward including information about the weather impacts on campus and the surrounding area that were occurring as the storm progressed. Some of this information was posted directly from campus social media channels; others were re-posted from more official expert sources such as the National Weather Service. Much of the information straight from university sources does not contain a time-stamp, particularly in the earlier cases. For the more recent cases, all information is time-stamped. Additionally, at the University of Oklahoma, updated information is posted as a comment on the original post.

**Official campus directives.** The official campus directives typically came in the imminent lead up to the storm as well as during the onset of the storm in question. In particular, before the storm impacted campus, many of the institutions posted information on the severe weather plans and shelter information so that students, faculty, and staff were aware of what to do should campus be directly impacted. These messages also linked followers to information about where to find additional information about the developing situation on campus, such as other social media accounts, the campus website, and information for ensuring they were set up on the campus alert system. During the storm itself, these messages were very specific on what

those on campus should be doing, including messages to “shelter in place” and messages including specific information from the guidelines for safety during severe weather. The messaging during the storm, where present, was more direct and more forceful than messaging going out before and after the storm. In the case of Florida State University, those responsible for sending out information indicated this was intentional to convey the seriousness of the situation.

**Volunteerism information.** After the storm passed, there was a strong outpouring from users offering services and seeking information on how they could help those impacted by the storm. This led to the volunteerism information category, which was observed by both official and unofficial sources. This included coordinating donations, blood drives, and other active services to help those impacted by the storm. In many cases, when campus was not directly impacted by any of these storms, as a prime partner to the surrounding community, shelters and other comfort areas were set up on campus, and were staffed by students, faculty, and staff. Many of these areas were also set up for donations and information was provided via social media for what was needed, what they had excess, and other places supplies could be taken. Social media also highlighted how these institutions were giving back to their community in a time of need, including student athletes at Florida State University serving the food that was reserved for the football game that was cancelled as a result of the storm. Social media also highlighted staff members at the University of Oklahoma working around the clock to ensure that those displaced in their community were taken care of in their time of need.

**User-generated information.** Finally, the user-generated information category is without a doubt where the bulk of the information that can be found in each of these cases. This information was collected using the location-bound and hashtag tracked information. It contains data that could be coded in the categories listed previously; however, as it came from unofficial

sources, I chose to give it a separate category. This information can be linked to official information from campus accounts, some being posted prior to the information coming out via the official campus channels. One of the most iconic examples of this was at the University of Oklahoma where the announcement that the campus residence halls would be serving as shelters came from unofficial sources several hours before it was formally announced by the University of Oklahoma. Additionally, this was observed at Florida State University, which was the most recent case with an observed increase in posts external to official sources.

### **Common Strategies for Information Dissemination**

Many of the strategies employed across these institutions were very similar on each of these campuses. The main themes that emerged regarding dissemination of information included how social media fits within the larger communication plan on campus; the importance of using multiple platforms to ensure maximum outreach of messaging; issuing messages from the top down, rather than bottom up; clear understanding of where information comes from and who is responsible for sending out different types of messages; and how to best engage with followers.

**Social media as a part of a larger plan.** Each of the institutions considered in this study discussed how their social media efforts were only a small part of the total communications package that took place during these events. Each campus was able to describe in detail all of the methods they used to communicate with students during these events, including campus alert systems such as RAVE and Blackboard Connect, that automatically send out emails, texts, and phone calls regarding the situation; altered versions of the campus website; messages communicated via campus public announcement systems; on-screen messages sent out to all devices connected to campus internet; and digital display boards – all in addition, in most cases, to a social media presence. These messages overlap and are intertwined, all in hopes of reaching

the most people. Some of the messages, such as social media and text messages, due to their nature, are unable to communicate the full picture, and rely heavily on referring people back to sources such as the website and campus-wide emails, which can contain more information.

**Use of multiple communication platforms.** The majority of the people interviewed in this study emphasized the importance of communicating across multiple platforms, which is consistent with the literature that informed this study. By doing this, those interviewed believed they were able to reach the maximum number of people, who each have preferences on how they prefer to receive their information. Additionally, by utilizing multiple platforms, campuses are able to communicate with various levels of people, from students, faculty, and staff to parents, media, and other stakeholders for campus. In order to optimize the amount of time it takes to send out campus alerts, those platforms are reserved for those who are actively engaged on campus but are not appropriate for those not physically on campus. By utilizing social media, people who are unable to enroll in the campus alert systems can get an idea of what is going on and receive updates when they might not be getting them from students and staff members who are on campus.

**Top-down messaging.** The majority of these messages were sent out in a top-down manner, starting with high-ranking campus officials, such as presidents, vice presidents, and other director or officer positions, then disseminated out to the offices that communicate the information out and those seeking the information. Often, such as in the case of the University of Alabama and the University of Oklahoma, those responsible for communicating out information have a seat at the table as decisions are being made by key administrators. Because of this, information can be disseminated widely without delay. The information contained in these messages is typically crafted by the key administrators and sent out almost verbatim by the staff

responsible for doing so. Once the messages go out, communications staff typically have the authority to respond to questions when necessary and send out messages that clarify points made, should there be any confusion. It is also widely accepted for departmental sub-accounts to get involved in the social media conversation once the official word is sent out by the university accounts, as they may have more information that is relevant to their followers.

**Attention to source of information.** Information concerning the situations observed in this study came from a variety of sources. In some instances, such as Missouri Southern State University and Florida State University, information about the weather events came from the emergency manager's office on campus. In other crisis cases, information came from university police. At the University of Oklahoma, the weather information came from a staff member in the School of Meteorology, who would later become the University Meteorologist. On each, there was someone who responsible for checking the weather threat for campus every day, however this looked very different depending on the institution. At the University of Oklahoma, where there was a licensed meteorologist on staff, those forecasts come from within. Everywhere else, there was a staff member responsible for coordinating with the National Weather Service office responsible for their county every morning to be aware of any weather risks for the day. This information was then disseminated accordingly to those who need the information. In instances where there is a direct threat to campus, this information was communicated out to the students, faculty, and staff.

**Direct follower engagement.** When it comes to whether or not to respond to comments and messages via these accounts, the data gathered provides mixed messages. In the case of Florida State University's Housing accounts, every question that was posted was answered directly by the staff member in charge of the accounts at the time. Conversely, staff at the



University of Alabama and the University of Oklahoma stated in their interviews that they were unable to directly respond to messaging because of the sheer number of questions they receive. Their staff monitored what was being said very actively; however, they did not directly respond to comments. They chose to send out additional messaging if they noticed trends of questions being asked or overwhelming numbers of incorrect information being observed by community members. The social media managers on both sides of this topic discussed that while there were monitors messages, the online community did a very good job of answering questions and correcting misinformation if an official statement had already been put out via the official university accounts.

### **Administrator Feedback on Social Media Effectiveness**

Overwhelmingly, participants of this study expressed their belief that social media is a very valuable tool for communicating during crisis situations. Campus administrators have observed a shift in how students are receiving their information. Previously, students relied heavily on emails to get information during crisis situations. Today, several participants say they have observed a shift in student reliance on email to barely reading their emails while having a very active presence on social media. They believe that social media is where students are today and cite social media as students' preferred method of communication. As such, the participants of this study stated resoundingly that despite some of their negative personal feelings toward social media, it is imperative for college campuses to utilize social media to communicate with students if they want to ensure their messages are being received.

Across all of the communication methods described through the interview process of this study, it was split between whether participants found text messages or social media to be more effective. Despite this, there was agreement that sending out information via social media was without a doubt the fastest way to get out information as there are often delays on getting out text

messages via campus alert systems. The question to social media's effectiveness came from the barrage of other messages in which important campus alert messages might get lost. Many even believed that social media could eliminate the need for other services, such as the call center the University of Alabama set up to answer questions quickly and to provide information to stakeholders who would otherwise be in the dark. While social media management does require some staff, it requires far fewer people to communicate vital information than call centers or many other communication methods.

Conversely, to the point that social media solves several problems in communication structures across campus, many participants cited several flaws they have found in their experiences with social media. First and most overwhelmingly through the data collection process, social media has the potential to run rampant with rumors, especially if the university does not put out a statement of their own very early on in the situation. For example, at the University of Alabama, there was a period of time where communications staff was without power and was unable to send out messages via social media during and shortly after the tornado that impacted areas very close to campus. During this time, many rumors were circulated about what was happening on campus and news involving campus students before the university was able to put out an official message. By the time the staff was back up and operational, they had to spend the majority of their time combatting rumors rather than communicating per protocol. Had social media not been a factor here, while it is possible there would have still been rumors surrounding this incident, the unofficial and mostly incorrect information would not have circulated quite as rapidly.

As stated many times through the duration of this study, while social media is a great tool for communication, by the time a campus can adopt a certain technology, students have moved

on to another platform or have altered how they interact with a current format. In the earlier cases observed through this study, Facebook was the primary social media source for information. In the case of Missouri Southern State University, the bulk of the social media posts I was able to find were on Facebook; however, there was no official presence from the university itself. The University of Alabama case was primarily on Facebook but had a very small Twitter presence. By the time of the University of Oklahoma case in 2013, while the bulk of official posts were on social media, the majority of community posts were on Twitter. The case for Florida State was similar; however, through interviews I found the strong Facebook presence was primarily due to parents trying to find out information about their students. In each case, the participants discussed how it seems like students have completely moved off of Facebook to Twitter but have started to show that they are trending away from Twitter to Instagram and Snapchat. They discussed that they are still using Facebook because that is where they can reach parents and other stakeholders in order to make sure everyone is well-informed.

Another downside that was cited is the potential to create bad press through using social media to communicate during a crisis situation, knowing that it will send out potentially negative information to those who are not directly affiliated with the university. For example, for a large institution with a strong following for a sports program or other high-profile, public attraction, community members and fans will follow social media accounts to get information about those things. With this comes access to messages pertaining to a campus crisis or severe weather on campus. There are some campus administrators that believe putting out what they perceive to be sensitive information on social media regarding a crisis situation allows people who do not need that information to know what is going on, which could create negative press surrounding the event and in turn produce a negative image of the university as a whole.

Additionally, social media allows for everyone to become an expert on any field, whether they are credible or not. Because of this, it is possible that a community-generated post could create a news story, whether positive or negative. For example, at the University of Oklahoma, there are two instances where a user-generated post went viral and brought national attention to the university. One was positive – providing shelter in the residence halls to those displaced by a tornado that devastated a nearby community; the other negative – a member of a fraternity leading a racist chant on a bus to a function. Both brought national attention to the university and had implications for those involved. There is a need to better educate students and staff members on how to properly harness social media so that they are aware of the potential ramifications of posting things on social media that could be seen by anyone in the world. Some might argue the ability to share things widely and potentially get national attention is one of the benefits of social media; others could argue that not properly harnessing its power could lead to hardships later when the consequences of seemingly innocent actions that get national attention via social media come back to haunt them.

### **Recommendations**

While conducting this study, I learned several things about how social media can be used effectively in a crisis situation. I also learned how social media can be ineffective when communicating during a crisis situation as well as some of the common pitfalls that were consistently observed through the course of this study. This section will discuss those points and provide recommendations for future use of social media during severe weather events, some of which can be implemented for any type of crisis event. These suggestions include suggestions for using social media during a crisis situation, including frequency of sharing information and timeliness of information; the importance of a strong social media presence, including using

common language and having a consistent voice; having strategies in place to be weather aware; ensuring that key decision makers are in one place to get out the initial messaging, but allowing for autonomy across sub-accounts once an official message has gone out; and finally understanding the student body and whether or not “opting- in” for messages is appropriate.

### **Sharing Information Early and Often**

One of the most overarching and obvious themes I noticed was the importance of sharing information early and often. With the lack of information comes misinformation and rumors. It is important to communicate quickly, even if that communication is just an acknowledgement of an issue and a promise for more information soon. Because of social media, we no longer live in a world where a full story can be created before anything is released. By waiting to have the full picture before sending out information, people will continue to share their own information on social media, which makes it much more difficult to correct information later.

During the April 27, 2011 tornado that impacted the University of Alabama, the Office of Strategic Communication sent out messages every 15 minutes, even when they did not have any new information. This allowed those looking for information to see that the situation was still developing and know to continue to check back for updates. There was a brief period of time where the staff that was in charge of actually sending out the messages were without power, making it impossible for them to continue sending those messages out. In the absence of information from official sources, many rumors circulated on social media, forcing the communications staff to play catch up for the duration of the event to attempt to correct false information. Had there not been the gap in communications, while there still might have been rumors spreading, it might have combatted some of the issues this staff experienced.

## **Establish Strong Social Media Presence**

Additionally, the usefulness of a campus social media account is only as strong as its following. It is important to create a strong social media presence before it is necessary to have a following. By being proactive on social media and creating a strong following, people will be conditioned to look to the university social media channels for information. This will help spread correct information when coupled with the concept above; you are sending out information to a strong following as you have it rather than waiting to send out a full story.

## **Timely Sharing of Information**

Additionally, sending out information in a timely manner can make the difference between life and death for students, faculty, and staff in a crisis situation. Many campuses, such as the University of Oklahoma and the University of Alabama have developed policies since their respective storm encounters documented in this study to close campus for threat of severe weather, much like they might for threat of winter weather, to allow students, faculty, and staff to get home or to a safe location before the onset for severe weather. Getting support to close campus so that constituents can find shelter before the storm hits is only part of the equation: there needs to be support to disseminate these closure announcements early enough to give people time to be sheltered prior to the storms. For instance, at the University of Alabama, students, faculty, and staff were sheltered in place as campus activities had been suspending starting around 3pm. While this decision likely saved lives, there was some criticism that this decision was communicated so late that the only option was to shelter in place on campus, rather than allowing people to go home or any location of their choosing. Had this been communicated out earlier, students, faculty, and staff might have felt safer in the situation had they been able to choose where they were sheltering rather than being forced to stay on campus.

## **Consistent Communication**

Many of the people on campuses chosen for this study discussed difficulty being able to consistently communicate with students, faculty, and staff during their respective crisis situations. This was caused by a variety of reasons: lack of power, lack of cellular signal, lack of staffing. To combat this, campuses will take down their normal, day-to-day websites and replace them with an emergency website where information can be relayed consistently. This was an afterthought in most cases at the time but now a part of many official plans today. This website should be located in a place where servers are powered by generators, so they do not lose power and need to be robust enough to handle the amount of traffic the site is likely to see. By doing this and supplementing with social media posts, directing followers to their website for more complete information universities could combat much of the confusion and lack of information that was cited in many of the cases observed for this study.

## **Assigning Someone to be Weather-Aware**

While each of the institutions studied in this dissertation cited having an awareness that they were destined for severe weather. In each case, there was someone who was responsible for being weather-aware at every institution. In order to ensure that your campus is not caught off-guard by severe weather, it is important to assign or have someone on campus who is responsible for looking at the severe weather risk for every day and making moves based off of that information. The University of Alabama and Missouri Southern State University both have someone in their Office of Emergency Preparedness who makes contact with the National Weather Service every day to discuss the weather threat for the day. The University of Oklahoma has a University Meteorologist who makes forecasts on their own based off of their own observations. However, it is structured, the person with this information should have lines of

communication with the necessary people on campus and should potentially start assembling groups to discuss an extreme weather plan that includes campus communication.

### **Establishing a Campus Meteorologist**

While this is not necessarily feasible for all campuses, the concept of having a University Meteorologist who can do forecasting without having to involve a third party is one that is unique and potentially very useful. The University of Oklahoma is at somewhat of an advantage for this type of position as there is an award-winning School of Meteorology on campus as well as the National Weather Service-Norman located on campus. However, since this position was instated in 2014, the results indicate this is something that could be very beneficial should it be translated to other campuses. Not only does this position remove the middle-man when assessing severe weather risk for campus, but this also allows for real-time expert information regarding the weather, should there be an imminent risk to campus. Additionally, the University Meteorologist at the University of Oklahoma runs a Twitter account and a Facebook page that serves as an educational resource for those who want to learn more about the weather as well as a source of information should there be a potentially dangerous situation unfolding.

### **Decision-Makers in One Location**

When there is an imminent risk for severe weather on campus (or any other crisis situation), it is very helpful to have all of the key decision makers on campus as well as those responsible for communicating that information for efficient communication with each other and efficient communication to the outside world. For example, at the University of Alabama, Missouri Southern State University, and the University of Oklahoma, there is a team of individuals who congregate in an area usually referred to as the “Emergency Operations Center” with respect to NIMS protocol. These groups include key decisions-makers such as presidents



and vice presidents of the institutions, emergency managers, and communications staff. By having everyone in one place, once a decision is made, the communications staff can quickly disseminate information to those responsible for formally posting it on social media and various other alert systems if they are not already stationed in the EOC.

### **Consistent Messaging**

Information on social media can come from anywhere and anyone. Some information presented may seem credible and official; however, there is no clout behind it. In order to combat this, it is important that universities and other official sources establish themselves as a legitimate presence online through marketing and conveying a consistent voice and message. By presenting information from one voice as an institution, followers are able to get a sense of where the information should be coming from and when to expect it. Additionally, by providing one voice, there are not conflicting messages from various places across campus, potentially muddling the message and cutting down its authority. When there are multiple messages coming out from various sources within one organization, it can create confusion on where to actually look for information and which information to trust. Having one voice will allow for a consistent message and singular focus.

### **Allow Some Autonomy on Sub-Accounts**

While it is imperative for all campus accounts to be conveying the same message on appropriate timelines, it is also important for campus sub-accounts, such as housing and residence life as well as various offices and educational departments to have some authority for sending out appropriate messages via their accounts. Without this level of autonomy, there is a lack of buy-in for social media across campus, therefore removing it from the forefront of people's minds as they communicate during a crisis situation. Various sub-accounts have a

different set of followers that can broaden the scope of the messaging being sent out. Therefore, it is necessary for these accounts to have a presence. Moderators of these accounts should be waiting for official information to come through campus accounts rather than creating their own; however, they should not be silenced during a crisis situation. Their voices are also very important in conveying department-specific information that other campus accounts may not be allowed to disseminate.

### **Using Common Language**

In addition to having a clear understanding for where information is coming from in a crisis situation, it is important to use common language when communicating. For example, at Missouri Southern State University, the social media messaging always includes language such as “eyes to the skies, Lions” when communicating severe weather scenarios. The University of Oklahoma includes the words “OU Alert” before every message they send out during a crisis situation. These types of common language allow followers to anticipate the type of message they are receiving as well as give them key words to search for when scanning their feeds for new information about what is going on. The University of Oklahoma also includes a time stamp on all communications that go out during a crisis situation so that followers are able to gauge the timeliness of the messages they are reading to combat how the algorithms are set up, causing messages to display out of order.

### **Make Appropriate Decisions About “Opt-In” Messaging**

One of the hardest things about communication during a crisis such as a weather event on campus is trying to reach everyone with the message being sent out. When a crisis strikes, many people are left in the dark because they have not actively sought out services that they have to “opt in” to receive messages. Because of this, I believe that it is important to have at least one

platform on campus where students, faculty, and staff have to “opt out” of receiving messages so that they can be reached by at least one source. For example, at Missouri Southern State University, when the RAVE system was first introduced, they had a 10% enrollment rate as students, faculty, and staff had to opt in to receive messaging. A couple years later, this shifted so that those who did not want alerts had to opt out, and they found that they had a 90% enrollment rate. While there are many different methods for reaching people, that higher enrollment rate could be key in saving lives and sending out notifications.

### **Summary of Recommendations**

As mentioned previously, there is no one correct way to communicate with all people in a crisis situation. Through this study, there were many unique technologies presented that could have some implications for future communication methods. For example, after the events of April 27, 2011, the University of Alabama developed a mobile application called “Seek and Find” that integrated multiple forms of communication methods all into one place, including campus alerts, social media feeds, and live weather information. If someone has access to a phone, they can access this application and see information all in one place. Additionally, the University Meteorologist at the University of Oklahoma discusses at length their experimental use of “shortcodes” where anyone who is seeking information about a particular event can text a word to a specified number and be enrolled in messaging for the information they are seeking. They have experimented with this technology for temporary events, such as home football games and summer camps and have gotten good reviews so far. He says he plans to expand this campus wide in order to provide people with instant alerts of the information he already posts to his emergency preparedness social media presence. Additionally, he discussed a need for a closed circuit social media network type of platform where students, faculty, and staff can opt into

information about happenings on campus that would not get lost in their clutter on their normal feeds. One could argue that something like the mobile application at the University of Alabama coupled with the shortcode technology being used at the University of Oklahoma could accomplish this goal and have strong implications for the future of social media use during crisis situations on campus.

Finally, in order to truly grasp the potential of social media, it is necessary for students, faculty, and staff to understand the power of social media and how to appropriately interact online. By providing training to students on how to properly engage with social media, we could establish social media as a platform for change and enlightenment, rather than being a potential environment for bullying and incriminating information. By providing training on how to properly engage with students on social media, we could establish a presence as administrators as a place to gain valuable out of classroom experiences with our students that create an atmosphere of information sharing that could encourage multi-dimensional learning across campus. It could also set campus social media channels up to be credible news sources where students can rely on and trust the information being presented. All of this is possible if we stop ignoring social media and begin having conversations about the power and potential of this platform to create a better, more informed online culture for in which we can all thrive and have an expanded network of learning and change.

In a crisis situation, it is very important that messaging go out quickly so that students, faculty, and staff can get the information they need to ensure their safety. As mentioned previously, it is important that as decisions are being made, the communications staff is provided with timely information so that they can send this information out across multiple platforms. It is also important that whoever is in charge of sending out this information, specifically on social

media, is given the authority and autonomy to disseminate additional information as it becomes necessary. This includes answering questions, should that be part of the protocol on social media, but also sending out additional messaging to either correct erroneous information or to send out a blanket message answering a question that is showing up consistently. It is also important that sub-accounts are allowed to send out information that might be pertinent to their processes. For example, at the University of Alabama, there were many questions about how students would check out of their residence hall rooms once classes had been cancelled for the remainder of the semester. The residence life accounts in this case should not need additional approval to send out information to address in-house processes. However, in the case of the University of Oklahoma, the graduate student who announced the university would be opening up residence halls rather than waiting for the announcement to come from the official campus sources would have not been following protocol.

### **Conclusions**

After analyzing relevant social media posts, conducting interviews with key participants in each of these events, as well as looking at the few documents that were provided to me throughout this process, it is important to reflect back upon the guiding questions of this study to ensure that the research conducted is in line with what I set out to do from the beginning. When designing this study, I was looking to find out how college campuses have used social media during severe weather events as well as how social media fits into their overall campus communications plans. From this study, I was able to determine that, overall, each of these campuses used social media to some degree during these events, even if that was not in an official sense, as was the case for Missouri Southern State University who did not have a social media presence at the time of the storm that impacted the Joplin area. Additionally, social media

fits into the overall plans as one of many components to alert faculty, staff, and students of severe weather that could have a direct impact on campus and threatens the safety of those on or around campus. Social media is by no means the only source or the primary source in any of the cases that were studied; however, it is clear that there is an observed dependence on social media from the student body and a need for campuses to respond to that need by using social media in some capacity.

### **Suggestions for Future Research**

Throughout the duration of this study, I got feedback from participants that they have seen so much change in social media during their time engaging with various platforms. Even across the 5 years the events I chose for this study, there have been advances in social media technology and how college campuses are using it to communicate with students. It is even possible that at the publication of this study the technology discussed is out of date. As long as social media is prevalent on college campuses, there will always be a need to study the evolution of social media technology and how it is used on college campuses in the future. I believe that looking at more recent cases where college campuses have been impacted by severe weather, including the extreme snow and cold weather of the 2017-2018 winter or the particularly active and violent hurricane season of 2017 might shed some light on how differently social media was used to communicate a year or two beyond the latest case in this study. Furthermore, considering newer technologies, such as Instagram and Snapchat, would add some additional levels to the baseline laid out by this study.

Several of the institutions selected for this study expressed a need for a redesigned, more focused version of social media that could serve college campuses during severe weather situations on campus as well as general crisis conditions on campus. While several institutions

discussed their thoughts on what this may look like, there is a need for more research to be done to develop and test this technology. Finally, as discussed, there is a strong need for training on social media usage and interactions, at the student, faculty, and staff level. I think there is great potential to research what this training should include and how to best teach it. Once the research has been done to inform this training, further research will be necessary to create, implement, and assess it. Both a creation of a redesigned platform as well as training on the power and potential of social media can have major implications beyond the scope of this study, including other types of campus crises, which can ultimately have great impact on the safety on college campuses and beyond.

### **Chapter Summary**

While it is very clear from this study that much has changed in how college campuses are using social media during severe weather events since the first case observed in this study in 2011 and the latest in 2016, it is equally clear that there is still a long way to go with how we interact with stakeholders via social media during crisis situations impacting campuses.

Technology has been constantly evolving during the period of time considered in this study and has likely changed even more since the completion of this study. In order to keep up with the changing technology and to continue to serve our students on a platform they are actively engaging with, it is imperative that campus administrators continue to consider social media as they evolve how they are communicating during crisis situations on campus. It is also necessary for campus administrators to interact with social media in times where there is no threat to campus in order to establish a strong online presence for the students when they need it most.

By being aware of this ever-changing platform, keeping up with the many facets of its various nuances, and being tuned in to what students are looking for, social media can be a very

valuable tool for engaging students. Campuses should be evaluating the plans they have in place, applying best practices from other institutions, and continuously striving to improve their strategies for communication. Through this, college campuses have potential to engage with students on a whole new level. By making a few tweaks to how campuses are already communicating during a crisis situation, administrators can take our reach to a whole new level, potentially saving lives in some particularly dangerous situations.

It is clear that social media is not going away any time soon; therefore, it should not be ignored. There is still a lot that can be learned about social media. We still have a long way to go to truly understand how to best interact using social media during an on-campus crisis event. This is definitely a two-way street because it is clear from the cases studied that students are also learning alongside us as professionals. It is important to remain flexible and to continue to train and evolve as the technology advances. One thing for certain is that social media is not going away any time soon and will continue to become more prominent as more students come to campus who have been taught to be connoisseurs of their news via social media outlets.



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