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# #Gatlinburg: Examining Affective and Informative Social Media Content During the 2016 Gatlinburg Wildfires

Kathryn Baker Staggs

Clemson University, [katie.baker214@gmail.com](mailto:katie.baker214@gmail.com)

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#GATLINBURG: EXAMINING AFFECTIVE AND INFORMATIVE SOCIAL MEDIA  
CONTENT DURING THE 2016 GATLINBURG WILDFIRES

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A Thesis  
Presented to  
the Graduate School of  
Clemson University

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In Partial Fulfillment  
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Master of Arts  
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Accepted by  
Dr. Joseph Mazer, Committee Chair  
Dr. Erin Ash  
Dr. Andrew Pyle

## ABSTRACT

Crisis communication has been studied in many ways; however, researchers are starting to observe this practice in the context of social media. Social media is consistently rising as the most popular and efficient platform for communication and is essential for effective communication during a crisis. During the Gatlinburg wildfires on November 28-29, 2016, social media was used to communicate about the disaster. This thesis utilized media dependency theory and the social-mediated crisis communication model to explore how organizations and the public use social media during a crisis. Radian6 software, a program that captures publicly accessible social media content, was used to gather 3,000 tweets captured from the night the fires first occurred, throughout the next day while the fires continued, and the day after the fire was extinguished. This study also examined the amount of posts related to the American Red Cross and the Federal Emergency Management Agency (FEMA) during the wildfires by crafting a search that included the previously mentioned keywords and hashtags as well the tags @RedCross and @FEMA and the hashtags #AmericanRedCross and #FEMA. Analysis revealed that individuals post more affective content than informative content. It was also found that organizations did not use social media to share information about the crisis. This thesis provides theoretical implications and practical applications for crisis managers.

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# CHAPTER ONE

## INTRODUCTION AND LITERATURE REVIEW

### **Introduction**

In the fall of 2016, a set of major wildfires swept through the Appalachian Mountains of North Carolina, Georgia, and Tennessee. Perhaps one of the hardest hit areas was Gatlinburg, Tennessee. On November 28, 2016, a small wildfire six miles away from Gatlinburg on Chimney Top was helped along by wind and dry conditions and wreaked havoc on the vacation destination for millions in a matter of hours. Many residents, unprepared for the sudden onslaught of the flames, were barely able to evacuate their homes and 14 people did not make it out alive (Tamburin, 2016). Since the Tennessee wildfires are a recent occurrence, the official emergency management agencies have not produced an official damage results report, but it is estimated that 14,000 people were affected and over 150 homes and businesses were completely destroyed (Tamburin, 2016).

On December 15, 2016, FEMA officially declared the Tennessee wildfires a major disaster (*Tennessee Wildfires*, 2016). This tragic event demonstrates the importance of an effective crisis communication plan. In this particular case, the event happened so rapidly that officials had to almost immediately make the switch from response to recovery efforts (Sheehan, 2017). There were several communication failures that led to the public being unprepared for the fire. Sevier County uses the IPAWS alert system that targets all cellphones within a certain area to deliver emergency messages. John Mathews, director of the Sevier County Emergency Management Agency

(SCEMA), stated that he communicated with TEMA but TEMA indicates that he spoke to the National Weather Service and not to them (Jacobs, 2016). According to Gatlinburg Fire Chief, Greg Miller, the Tennessee Emergency Management Agency (TEMA) was unable to distribute a notice about the mandatory evacuation of Gatlinburg due to a communication error between TEMA and SCEMA. Miller stated at a press conference that “TEMA could not send the message because the verbiage had not been approved” (Habegger, 2016). Miller went on to comment that the unapproved verbiage was important to note because “we didn't want an inappropriate message to be disseminated, which could have evacuated people towards an area of concern rather than away from it.” Several cell tower and power outages also caused the public to be unaware of the mandatory evacuations. An evacuation notice finally came at 9:00 p.m. on November 28 on TV and radio, more than three hours after the flames had reached Gatlinburg. There was not only no communication to the public but also miscommunication between agencies. All of these components together exemplify that systems fail and officials need to be prepared for it to happen. This unfortunate scenario demonstrates that communication during a crisis is essential as it can save lives.

During the wildfires, people flocked to social media to disseminate and gather information on the disaster. In addition to the general public using social media during crises, organizations such as the American Red Cross, the Federal Emergency Management Agency (FEMA), businesses, and public relations professionals have begun to use social media as a way to disseminate crisis information or help repair the damage after the event has occurred (Lin, Spence, Sellnow, & Lachlan, 2016). Although



organizations use social media to repair the damage, public audiences look to social media for the latest up-to-date news on a situation. Therefore, it is important that organizations have a strong social media presence so audiences can easily communicate with them during a crisis.

The case of the wildfires presents a context ripe for research on crisis communication, over the course of the three first days of the Gatlinburg wildfires. The phenomenon of organizational social media crisis communication in the context of the Gatlinburg wildfires initiated the purpose of this study. The Gatlinburg wildfires present a new platform for communication scholars to be able to study crisis communication and social media as they are still very recent. Organizations play a significant role in how information is disseminated during a crisis. Social media is a widely used medium and it is necessary to explore how it functions in the context of crises.

### **Literature Review**

A crisis can be loosely defined as “an event that creates an issue, keeps it alive, or gives it strength” and can include “natural disasters, industrial accidents, and intentional events” (Austin, Liu, & Jin, 2012, p. 191). Although *crisis* and *disaster* are two separate terms, both are often used concurrently throughout the crisis communication literature (Austin et al., 2012; Roshan, Warren, & Carr, 2016). Liu, Fraustino, and Jin (2015) stated that even though crises and disasters are conceptually different, disasters can prompt additional crises. Palen et al. (2009) stated, “we use the term crisis to describe, as best as terms allow, large-scale emergency activity by members of the public that includes disasters but also includes other unexpected events” (p. 11). Therefore, the term crisis

covers an array of potentially devastating events as it focuses on how the emergency is sustained throughout a long period of time. For example, a hurricane begins as a risk and can become a disaster, but after large amounts of destruction, the hurricane can leave communities in crisis.

Effective *crisis communication* is essential because the public needs the latest and most updated news in a timely fashion so that they can be more prepared and react appropriately. An understanding of crisis is essential to effectively defining crisis communication. Ulmer, Sellnow, and Seeger (2015) stated that a crisis is “a specific, unexpected, and non-routine event or series of events that create high levels of uncertainty and simultaneously present an organization with both opportunities for and threats to its high-priority goals” (p. 8). Based on Ulmer et al.’s definition of crisis, crisis communication is best defined as “Communication designed to manage the complexities of crisis situations in order to mitigate threats and maximize opportunities for stakeholders, organizations, and communities” (Pyle, 2014, p.16).

Communication plays a paramount role throughout the crisis, from risk to recovery, as can be seen through the communication mistakes made in the Gatlinburg wildfires that left individuals uninformed and ultimately led to several deaths. Crisis communication strategies are also regularly changing due to the development of new technologies and communication platforms such as social media.

## **Social Media**

Social media use has risen to new popularity within the past decade as individuals, young and old, use it on a daily basis (boyd & Ellison, 2008). According to

the Pew Research Center's survey of social media use, as of November 2016, 79% of online adults use social media (Greenwood, Perrin, & Duggan, 2016). Although crisis communication issues have been thoroughly researched over the years (Coombs & Holladay, 2010), social media have started to become of interest to communication scholars to examine the role of technology in crisis communication. Several researchers have demonstrated how and why organizations and audiences use social media during a crisis (Austin et al., 2012; Liu et al., 2015; Mazer et al., 2015; Morgoch, 2015).

As new technologies develop, the need for effective social media crisis communication increasingly becomes a necessity. However, new technologies bring different problems for crisis communication, such as false information, viral gossip, and the inability to control content. Mazer et al. (2015) stated that "social media have brought about a new set of communication issues" which individuals and organizations need to consider during a crisis (p. 239). Social media is a valuable way for all individuals to find the information they seek during a crisis. Social media sites have the ability to get information to a large audience in a short amount of time providing a venue for crisis communication. Additionally, social media have the ability to take large amounts of information from various sources making it a comprehensive source of information which is especially useful during times of high uncertainty (Lin et al., 2016).

There are a number of social media platforms that are available to anyone who wishes to use them. Palen et al. (2009) stated that this variety is especially important in crisis situations where "disaster survivors, curious onlookers, and compassionate helpers" need to find information quickly (p. 2). When examining how social media sites are used

during a crisis, it is important to identify two specific groups: organizations and audiences. Researchers have shown that the two groups use social media during a crisis for different and specific purposes (Austin et al., 2012; Lin et al., 2016; Roshan et al., 2016).

### *Audiences*

Since audiences are the primary users of social media during a crisis, they need to be provided with the best information. Austin et al. (2012) stated that “audiences seek out social media during crises because they provide an unfiltered, up-to-date line of communication and offer crisis information that audiences cannot get elsewhere” (p. 191). In addition, audiences can turn to social media for emotional support during a crisis.

In their study on how audiences seek out information during a crisis, Austin et al. (2012) found in 22 interviews and an online experiment with 162 participants that individuals use social media during a crisis for specific reasons: insider information and checking in with friends and family. The study found that people turn to traditional media during a crisis for education. The researchers concluded that social media are viewed as less credible so people got the majority of information from television and radio broadcasts.

In their study on different sources of information during a crisis, Liu et al. (2015) found that when people were communicating about a crisis, they preferred to do it through offline interpersonal communication rather than through social media. The researchers also discovered that regardless of information sources, people would listen to

a government agency if the organization told them to evacuate. Austin et al. (2012) found that audiences turn to social media during a crisis for checking in with friends and family and insider information. Mazer et al. (2015) studied the volume and content of social media posts during active school shooter events and found five topics that audiences most commonly discuss on social media: details on the event, emotional reaction, personal connection, thoughts and prayers, and call for action. These studies exemplify the variety of ways that audiences can use social media sites during a crisis.

### *Organizations*

There were many organizations that had a role in spreading information on social media during the Gatlinburg wildfires. FEMA, TEMA, SCEMA, and the American Red Cross (ARC) were all involved during and after the wildfires (Dorman & Boehnke, 2016; American Red Cross, 2016). FEMA, TEMA, and SCEMA are all governmental agencies tasked with carrying out emergency plans and procedures. According to FEMA's website, its mission is to "support our citizens and first responders to ensure that as a nation we work together to build, sustain and improve our capability to prepare for, protect against, respond to, recover from and mitigate all hazards" (FEMA, 2018). TEMA and SCEMA are local and state organizations that focus on crisis management and emergency preparedness at the state and county levels.

Compared to the above organizations, the American Red Cross is different, as it is not connected to the government. The ARC focuses on relief efforts, such as shelters and donations, rather than how to manage the emergency event. According to its website, the organization assists in crises by mobilizing volunteers and through the generosity of

donors (American Red Cross, 2017). Each of these organizations will have a different perspective when discussing the wildfires as they all had different roles in helping during crises. It is important to include the organizations in this study so that a wide array of discourse from various organizations can be collected and analyzed. Although organizations play a large part in the dissemination of information during crises, the public will seek specific and different types of information.

Social media are valuable tools for organizations, such as FEMA and the American Red Cross, as it allows them to rapidly share information with a large audience. Austin et al. (2012) found that social media are more convenient than web pages and studies have demonstrated that people are less likely to go to an organization's website for information during a crisis. In the same study, the researchers found that only four participants out of 22 went to an organization's web page during a crisis so it is important for organizations to have a well-developed social media presence.

Social media provides an avenue for two-way communication between organizations and the public (Lin et al., 2016; Roshan et al., 2016). The two-way communication also lends itself to a cooperative environment between organizations (Getchell & Sellnow, 2015; Roshan et al., 2016). In their study of organizational network communication on Twitter during the 2014 West Virginia water crisis, Getchell and Sellnow (2015) discovered that Twitter was not being used to its full capacity between networks; however, the scholars also found that information was shared very quickly over Twitter between organizations which is helpful in crisis situations. When used properly, organizations can use social media to share information with one another

effectively and quickly. As well as using social media to purposefully share information with other organizations, social media sites provide organizations with access to real-time data that they can gather themselves.

While social media are beneficial, they can also present problems for organizations during a crisis. Organizations have a lack of control over what information is being shared about them as audiences are allowed to get involved in the communication process. According to Lachlan, Spence, Lin, and Del Greco (2014a), social media raise concerns about accurate messages because users can “retweet, repost, edit, or comment on the original message” (p. 521). Audiences can examine how an organization is dealing with a crisis and then create content to either praise or criticize them. This lack of organizational control has increased vulnerability and the frequency of organizational crises (Roshan et al., 2016).

Non-profit organizations have begun to use social media as a way to communicate with their stakeholders (Boeder, 2002; Briones, Kuch, Liu & Jin, 2011; Curtis et al., 2010; Lovejoy & Saxton, 2012; Lovejoy, Waters, & Saxton, 2012; Waters, Burnett, Lamm, & Lucas, 2009; Water & Jamal, 2011). Non-profit organizations primarily use Facebook and Twitter, but they accomplish a lot on the platforms including sharing information, gathering the community, and taking action (Lovejoy & Saxton, 2012). Lovejoy and Saxton (2012) found that the largest 100 non-profits in the United States have been more effective at using Twitter to engage their stakeholders in dialogue than with traditional websites. However, there are still improvements to be made in engaging their stakeholders as other studies found that non-profit organizations use social media

mainly for one-way communication (Lovejoy et al., 2012; Waters & Jamal, 2011).

Lachlan et al. (2014a) found that tweets from organizations were almost absent during a crisis.

Briones et al. (2011) examined the social media practices of the American Red Cross through a qualitative analysis of their Twitter and Facebook use. The researchers found that the organization has used the platforms to build relationships and create two-way communication between volunteers, community, and the media. However, in interviews with American Red Cross staff members, the scholars found that there are barriers to being able to use the sites to their full potential such as staff, time, managing content, and the public's abilities.

Research examining the connections between social media and organizations during a crisis has found very few connections. Lachlan et al. (2014a) examined the content and volume of tweets during Hurricane Sandy. The study focused on the number of tweets associated with the storm and found that references to governmental agencies were almost absent. This demonstrates that in a time marked with an ever-increasing dependency on social media the publics are not communicating with organizations through the channel. While audiences may not communicate with organizations, social media give organizations the ability to gather data from the public.

### *Crowdsourcing*

Social media alter the way in which information is created during a crisis because it turns the public into a resource for information. It changes people from consumers of information into producers of information (Lachlan et al., 2014a; Lachlan, Spence, Lin,



Najarian & Del Greco, 2014b). Therefore, social media are useful during crises because they support “community resilience and engagement by allowing information to be crowd-sourced” (Landwehr, Wei, Kowalchuck, & Carley, 2016, p. 33), which allows for more data collection. This information has created an interesting phenomenon in which social media are now the news source rather than more trusted sources such as news stations on television. In fact, social media have become so trusted that news stations are starting to gather their own information from it (Lachlan et al., 2014a).

The ability to create content on social media serves as not only a good news source but can also benefit organizations with their crisis communication. Gao, Barbier, and Goolsby (2011) discussed the advantages for organizations to crowdsource information from social media sites to help with disaster relief. They stated that “research has shown that it is possible to leverage social media to generate community crisis maps and introduce an interagency map to allow organizations to share information as well as collaborate, plan, and execute shared missions” (p. 10). Gao et al. (2011) also discussed that social media sites are not currently well-equipped to crowdsource information for organizations as they provide no way for different organizations to communicate with one another and do not always provide the right information. The Gatlinburg wildfires were a crisis filled with uncertainty as audiences did not receive the information they needed from organizations, such as FEMA, TEMA, and SCEMA. Every individual or group involved in a crisis will have a different type of media that they depend on to provide them with information or enable the sharing of information.

## **Different Social Media Platforms**

There are a few different social media platforms that people can depend on during a crisis and, due to their popularity, Twitter and Facebook are generally the most discussed platforms when discussing social media (Lachlan et al., 2014a, Lachlan et al., 2014b; Mazer et al., 2015; Smith & Anderson, 2018; Spence et al., 2015). Past research on social media crisis communication has focused on the use of Twitter and Facebook; therefore, they were the focus of this thesis. A discussion of the unique qualities of each platform will lead to a better understanding of the past research completed.

### *Twitter*

As of June 2016, Twitter has 313 million active monthly users (Twitter, 2016). Users of Twitter can have many followers, while at the same time following the tweets of others without consent. Twitter users are limited to 280 character posts that contain an unlimited number of hashtags. A hashtag is a word or phrase preceded by “#” that will link to other posts using the same hashtag. Twitter users can also mention other users in the tweet when the Twitter handle is preceded by “@”. Another notion that is frequently used on Twitter is “RT” which is used to signify that the tweet is actually a reposting of another user's original tweet.

Research on Twitter and crisis communication has started to appear more regularly as more people turn to social media for important information. Social media use has been studied in the context of many different crises including educational (Mazer et al., 2015), natural disasters (Lachlan et al., 2014a; Lachlan et al., 2014b; Spence et al., 2015), medical (Chew & Eysenback, 2010), and social crises (Papacharissi, & deFatime

Oliveria, 2011).

Twitter is a legitimate platform for communication research, which is demonstrated through the vast amount of studies that have already taken place on the platform. Research on Twitter communication has been completed on an array of topics including politics (Segesten & Bossetta, 2016) and health communication (Chung, 2016). Segesten and Bossetta (2016) examined Twitter use leading up to the 2015 British general election and were able to determine that the site was used extensively for political mobilization by the general public. Chung (2016) studied the themes present on Twitter and the role of retweeting during a Breast Cancer Awareness Twitter campaign. The study found that Twitter and #bcam were used more for fundraising as 33.8% of tweets fell into that category rather than for education (18.2%). Also, tweets that contained pictures were retweeted more often.

Several scholars have studied social media use during natural disasters have produced interesting findings. Lachlan et al. (2014a) and Spence et al. (2015) studied Twitter use during Hurricane Sandy. Both studies found that the type of content posted on Twitter changed throughout the course of the storm and concluded that Twitter is used more for emotional release during a crisis than information. Lachlan et al. (2014b) studied localized and nonlocalized hashtags during the Boston snowstorm and had similar findings on Twitter content. The researchers determined that localized hashtags were more effective than nonlocalized hashtags at providing actionable information.

Chew and Eysenback (2010) completed a content analysis of tweets during the 2009 H1N1 outbreak. The researchers' goal was to determine if Twitter could be used to

gather information on public health. They found that tweets related to the H1N1 outbreak were mainly used to share information, which is not consistent with prior research regarding Twitter use and crises (Lachlan et al., 2014b; Spence et al., 2014). The scholars concluded that Twitter is a valuable source for health professionals to be able to respond to real-time health concerns. This demonstrates that Twitter has been studied in the context of many different types of crises making it a valuable tool for crisis communication research.

### *Facebook*

According to Facebook.com (2017), as of March 2017, the social networking site has 1.28 billion daily active users with almost 86% of their active users being from outside the US and Canada. Since its development in 2004, Facebook has quickly established itself as the most popular social media platform. Facebook is a different social media platform from Twitter in many ways, including the number of users, the type of posts, and how friends are gathered. With 1.28 billion daily users (Facebook, 2017), Facebook has approximately five times the amount of Twitter users. On Facebook, there is no limit on the number of characters that can be included in a post. Unlike Twitter, Facebook users have to get consent from a person in order to become “friends” with them and see their profiles. There is a wide range of emotions conveyed on Facebook as it is possible to “like,” “love,” “haha,” “wow,” “sad,” and “angry” a person's post.

Facebook has been studied in a variety of contexts within the communication discipline. Communication scholars have examined companies’ marketing techniques (Shen & Bissell, 2013), political communication (Magin, Podschuweit, Habler, &

Russmann, 2017), education (Mazer, Murphy, & Simonds, 2007), and hospitality and tourism (Muckenstrum, 2013). In their study on the social media marketing techniques of six beauty companies, Shen and Bissell (2013) found that the site is used to connect with customers. Magin et al. (2017) examined the social media practices of political campaigns during the 2014 German and Austrian National elections. The researchers determined how Facebook can be used best during four different campaign types. They found that while the different parties claimed Facebook was important, they did not use the platform to its full mobilizing capability. Muckenstrum (2013) studied the use of Facebook by 34 hotels to determine how the accommodation sector uses social media to dialogically communicate with its consumers. 97.9% of posts made by the hotels were dialogical, demonstrating that the accommodation sector is more likely to try and use social media to create a dialogue.

Studies have been completed on Facebook use during and directly after a crisis but have focused on the use of online support groups (OSG's) on Facebook (Morgoch, 2015; Silver & Matthews, 2016). Morgoch (2015) examined the use of the “SnowedOut Atlanta” Facebook page during the severe snowstorm in Atlanta. Through an examination of wall posts, Morgoch found that individuals tended to use the page for information rather than emotional support. In their study on Facebook use after a tornado in Ontario, Silver, and Matthews (2016) found conflicting results. Their research on an OSG found that people used the page to offer aid and support and, while still prominent, informative posts were slightly less frequent.

Due to the differences between Facebook and Twitter, there are conflicting

findings regarding exactly which social media platforms people should use during a disaster. In studies concerned with examining how individuals and organizations use social media during and after a crisis, Twitter was the social media outlet studied most (Landwehr et al., 2015; Lin et al., 2016; Schultz et al., 2010). Landwehr et al. (2015) developed a Twitter disaster plan for tsunamis in Indonesia because it is the fastest approach to gathering crowd-sourced data. Other researchers found that crisis communication through Twitter resulted in less negative reactions to the event (Schultz et al., 2010).

Austin et al. (2012), however, found that in times of crisis Twitter was the least used social media platform. In their study on the use of social media during a crisis by local government, Graham, Avery, and Park (2015) found that the most used social media platform was Facebook (53%) followed by Twitter (27%). Researchers have found that Facebook actually produces a significant amount of posts during a crisis (Mazer et al., 2015). Mazer et al. (2015) stated that including other social media platforms in research “represents an important addition in the analysis of communication via social media during crises by offering a more detailed representation of social media posts during crises” (p. 246). During the wildfires, there were diverse individuals who used different types of media and the platforms they chose to use reflect their preferences; therefore, it is important that research on social media crisis communication during the Gatlinburg wildfires include different social media sites.

## **Media Dependency Theory**

DeFleur and Ball-Rokeach (1989) stated *media dependency theory* predicts that people rely on media to meet their needs, but that each individual will have preferences determining where they get their information. The researchers argued that media dependency theory is extremely relevant in situations marked by conflict and uncertainty which makes the theory particularly useful in social-mediated crisis communication. According to the theory, individuals will use social media to gain information during a crisis. Spence et al. (2015) stated that “as a specific medium becomes the more dominant source of information for a person’s needs, that medium will become more trusted and more influential” (p. 176). Therefore, even if social media may not be perceived as accurate sources of information, as they become a dominant news source they will be trusted more.

In their original article on media dependency theory, Ball-Rokeach and DeFleur (1976) determined that past theories on media effects did not study the right questions and concluded that there was a tripartite relationship between the audience, media, and society. The theory posits that in societies in which the media serve a central function, the individual’s dependency on the media will be higher than those that do not have influential media. Ball-Rokeach and DeFleur also theorized that “in periods of rapid social change or pervasive social conflict” dependency on the media would be much higher (p.1). Media dependency theory is an ideal theory to utilize for crisis communication research as crises are by definition, rapidly changing.

Media dependency theory has been used to examine media effects by many scholars in the communication discipline (Ball-Rokeach, Power, Guthrie, & Waring, 1990; Einwiller, Carroll, & Korn, 2010). Ball-Rokeach et al. (1990) used MDT as the theoretical background for their study on value-framing abortion in the United States. The study found that without the help of organizations the general public will have little effect in changing the values that are framed by the media. Einwiller et al. (2010) found that stakeholders depend on the media to determine how they will perceive an organization's reputation.

MDT states that individuals will use media to meet their needs (DeFleur & Ball-Rokeach, 1989) and research on social media use during a crisis has demonstrated that individuals have specific reasons for using social media. Liu et al. (2015) found that people do not use social media during a crisis to communicate about the event but prefer face-to-face communication or telephone calls. The researchers suggested that individuals prefer to use richer media in a time of crisis. However, the majority of scholars have found people do use social media during a crisis and that they do so for specific reasons.

In their study, Austin et al. (2012) found that individuals used social media during a crisis because it was convenient and to gain insider information. Interestingly, the researchers also found that participants used social media during a crisis to provide humor on the situation. Finally, the study concluded that individuals would use Facebook to check-in with friends and family during a crisis. The Gatlinburg wildfires occurred in a media-rich era filled with social media, television, and radio; therefore, MDT is a valid theory to apply to the context of the wildfires as demonstrated by research.



Research has shown that individuals have informative and affective needs when using social media during a crisis. As previously discussed, researchers have found that during a crisis audiences have both affective and informative needs that need to be met (Mazer et al., 2015; Morgoch, 2015). Mazer et al. (2015) found that people will react affectively to a crisis on social media as well as use the platform to share and seek informative content. Morgoch (2015) discovered that in the case of Facebook support groups, individuals will use social media as a place for seeking information and giving support to those affected by the disaster.

Mazer et al. (2015) found that people use social media during a school active shooter event for several different reasons including details on the active shooter event, emotional reactions, personal connections, thoughts and prayers, and a call for action. The largest category of posts was details of the event which included information about the shooter and victims as well as investigation and medical details. Individuals also posted about their frustration and how they knew people involved in the shooting. Mazer et al.'s (2015) study demonstrated that individuals are seeking both informative and affective content during a crisis.

In her study, Morgoch (2015) split posts on the SnowedOut Atlanta Facebook page into affective and informative posts by using a detailed codebook. The page was created to help those stuck in the 2014 snowstorm in Atlanta and is categorized as an online support group. Morgoch (2015) found that 93.4% of posts on the page were informative posts. Within the informative posts, information sharing was the most posted on the page. Only 23.4% of the posts were affective and the researcher found that in the

affective category people overwhelmingly posted support, concerns, and complaints.

Walker (2014) found similar results in his study of health online support groups on Facebook. 53.4% of posts were informative expressions seeking or sharing information.

In their study of Twitter use during Hurricane Sandy, Lachlan et al. (2014a) identified key phrases and hashtags as well as the different types of content and found that both informative and affective content was posted on Twitter. However, affective content was slightly more prevalent on social media with 42.7% of tweets categorized as emotional release. In times of high uncertainty, several different messages are sent to the public; however, individuals seek different types of messages (Vieweg, Hughes, Starbird, & Palen, 2010). Studies have shown that people generally use social media for two reasons: affective and informative content. *Affective content* has been broadly defined but was operationalized as any emotive need. Walker (2014) defined cognitive expressions as an “intrinsic desire for information and understanding” (p. 774). For this study, *informative content* was defined as any attempt to share or gain information from the organizations.

Scholars have recently applied the theory to examine the role social media play in crisis communication (Lachlan et al., 2014a; Mazer et al., 2015; Spence et al., 2014). Lachlan et al. (2014a) and Spence et al. (2014) used MDT as the theoretical background for their studies on Twitter use during Hurricane Sandy. The findings of both studies suggest that individuals do not view Twitter as a medium that will produce beneficial knowledge during a crisis as people used the medium more for affective release rather than information. Lachlan et al. (2014a) suggested that people are still dependent on

media but those with access to different media are going to use each one to fulfill a different need during crises. This is consistent with MDT as it states that individuals will turn to media to meet their needs, but each individual will have preferences that determine where they get their information (DeFleur & Ball-Rokeach, 1989).

Mazer et al.'s (2015) findings on social media posts during an active shooter event were consistent with MDT. The study found that individuals used social media more for information rather than emotional release. This suggests that the public is dependent on the media for information, especially during times of uncertainty, such as a crisis. There are conflicting findings on MDT applied to social media crisis communication research; therefore, it is necessary for more research with an MDT foundation to be completed. This thesis will use MDT in the context of the Gatlinburg wildfires to determine which platforms individuals depend on and how they use them during a crisis.

Considering this research, the following research questions were developed:

RQ1a: What amount of tweets during the Gatlinburg wildfire contain hashtags or links referring to the American Red Cross?

RQ1b: What amount of tweets during the Gatlinburg wildfire contain hashtags or links referring to FEMA?

RQ2: How often did the American Red Cross, FEMA, TEMA, and SCEMA post on Twitter and Facebook during the Gatlinburg wildfires?

RQ3: What type of content did the American Red Cross, FEMA, TEMA, and SCEMA post on Twitter and Facebook during the Gatlinburg wildfires?

## **Social-Mediated Crisis Communication Model**

Originally titled the blog-mediated crisis communication model (BMCC), the social-mediated crisis communication model (SMCC; Austin et al., 2012) is one of the earliest attempts to provide a model for how social media publics interact with one another in a crisis. The BMCC model was originally theorized by Jin and Liu (2010) with the intent of creating a model to help crisis managers monitor the blogosphere and provide appropriate responses to influential bloggers. The model distinguishes among three different publics that interact: (1) influential social media creators, (2) social media followers, (3) social media inactives. Influential social media creators “create crisis information for others to consume” (Austin et al., 2012, p. 192). Social media followers are the general public that consumes the crisis information provided by the influential social media creators. Lastly, social media inactives are those who do not use social media and get their information indirectly from social media creators. The model demonstrates that there is a top-down flow of information when communicating about a crisis through social media.

In their article on the blog-mediated crisis communication model, Liu, Jin, Briones, and Kuch (2012) studied how an organization, the American Red Cross, used social media to communicate throughout a crisis. Through in-depth interviews with 40 of the American Red Cross’ communication professionals, the researchers found that the importance of using social media, specifically Twitter, to communicate was recognized by the organization. The study found support for the BMCC model’s proposition that

crisis managers should monitor issues at every stage of the crisis. The findings of the study led to the renaming of the BMCC model and its main components.

While a few studies have focused on the SMCC model and organizations, others have studied the public's role in the SMCC model. In their study on how publics use social media during crises, Austin et al. (2012) found that both influential social media creators and social media followers emerge during crisis situations. Crises bring about a need for insider information and those that can provide it quickly become the influential social media creators. Accordingly, those that search for the information are the social media followers.

The SMCC also addresses informative and affective needs during a crisis. Austin et al. (2012) stated that the "SMCC model states that influential social media creators affect blog followers by providing issue-fit opinion to address followers' motivations for informative and emotional needs related to the crisis or issue" (p. 201). It is evident from the research that people have specific reasons for posting on social media and that these posts can be divided into affective and informative categories.

Wan, Koh, Ong, and Pang (2015), used the SMCC model as the theoretical lens for their study on parody social media accounts and the effects the accounts can have on organizations during a crisis. Parody social media accounts and organizational social media accounts are categorized as influential social media creators. Five crises and the corresponding parody Twitter accounts were studied and the researchers found that the fake organizational accounts created confusion and limited the legitimacy of the authentic

Twitter accounts. Individuals did not receive the correct information and were not able to have their informative or affective needs met by the influential social media creators.

The SMCC model expounds on the importance of information form and source when selecting a crisis communication response strategy (Jin, Liu, & Austin, 2014; Liu, Austin, & Yin, 2011). Jin et al. (2014) defined two types of organizational crisis origins, internal and external, and found that the specific crisis origin had an effect on which channels (form) should be used to communicate and who (source) should do the communicating about the crisis. The study demonstrated that if a crisis is considered internal, meaning that organization is to blame, then the public would become angry and aggravated if information is disseminated through a third-party on social media. If the crisis was defined as external, meaning the organization was not to blame, then the public preferred if evasive strategies were communicated by the organization. Liu et al. (2011) found similar results including that the public preferred to receive defensive strategies from the organization through traditional media rather than social media or word-of-mouth. However, if the support was communicated, the public would accept communication from a third-party through traditional media. Both studies demonstrate the importance of organizations strategically considering information form and source when responding to a crisis as each situation is unique.

The literature on crisis communication demonstrates that there are many parties involved in communication during a crisis including organizations such as the American Red Cross and FEMA. However, there are few studies that examine the interaction between individuals and these organizations during a crisis on social media. It is critical

to examine how the public is using social media during the Gatlinburg wildfires to communicate with organizations to determine how organizations can best use social media for crisis communication. As social media continue to become more prevalent in society, organizations will need to know how to incorporate social media into their crisis communication strategies. These considerations produced the following research questions:

RQ4: What types of affective and informative content are present on Twitter during the Gatlinburg wildfires?

### **Stages of Crisis**

There have been different approaches created related to the stages of a crisis (Fink, 1986; Pauchant & Mitroff, 1992; Turner, 1976). However, for this study on social media use during the Gatlinburg wildfires, we considered Spence et al.'s (2015) study on Twitter content during Hurricane Sandy and used Fink's (1986) model. Fink's (1986) approach posits that there are four general stages in the "crisis life cycle." A crisis begins with the prodromal stage, then moves through the acute stage and chronic stage, and concludes in the termination stage. The prodromal stage is the period when the crisis is still a risk. During this stage, there are hints and clues during the period of buildup to the actual crisis. In the acute stage, it is obvious to the public and organizations that a crisis is impending and has the ability to enact some type of harm. The crisis then moves into the chronic stage when organizations and communities try to rebuild after the crisis. Finally, the crisis ends in the termination stage. Fink's model is a legitimate way to characterize a crisis; however, at the time of writing the Gatlinburg wildfires have not reached the

termination stage which makes the model difficult for use in this specific study.

Spence et al. (2015) used Fink's (1986) model as the basis for their study on the variability in Twitter content throughout a crisis. The researchers examined 27,259 tweets that contained #sandy at different points throughout the storm. The researchers found that at the beginning of the storm informative displays were highest but began to decline as affective displays rose throughout the storm. Lachlan et al.'s (2014b) study on the Boston snowstorm found similar results. They studied variability in informative and affective content across the stages of the storm and found that informative content mainly occurred in the prodromal stage of the crisis. The researchers also found that informative content occurred again at the onset of the acute stage as people try to find information they did not find earlier. These results demonstrate that individuals are seeking different things throughout the different stages of a crisis. Following the example of Spence et al. (2015), this study examined the variability of Twitter content, not based on the stages of a crisis, but focused on the days of occurrence, which led to the following research question:

RQ5: How does the amount of informative and affective content on Twitter change over the course of the wildfires?

As social media continue to evolve, more questions have to be explored. Current research on crisis communication focuses on an array of areas including the type of content, the amount of use, and theoretical implications. However, even with the myriad studies completed on the topic, crisis communication must continue to be examined as it will only help organizations and audiences communicate in emergency management processes. This research will add to the literature on crisis communication and social



media as well as provide information to help in emergency management strategies. To this end, this thesis examined how frequently individuals use social media to convey informative content or affective content and how the public communicated with organizations during the Gatlinburg wildfires.

## CHAPTER TWO

### METHOD

Quantitative methods are typically used when a study has a theoretical background and tests for either positive or negative confirmation of research questions and hypotheses (Diriwächter & Valsiner, 2006). Because this study used media dependency theory and the social-mediated crisis communication model as a theoretical background, quantitative method was determined to best fit. To determine why individuals use social media during a crisis, a content analysis was conducted. Many studies on crisis communication and social media have used content analysis making it an appropriate method for this study (Chew & Esynbach, 2010; Lachlan et al., 2014a; Lachlan et al., 2014b; Morgoch, 2015; Spence et al., 2014).

Each individual has different ways of expressing themselves on social media, which can make researching social media data more difficult. Neuendorf (2017) stated, “In order to content analyze interactive media content, it’s important to understand that interactive media users are more than just receivers or consumers, as they were with earlier media. They have an active role in adapting, altering, and even producing content” (p. 202). However, content analysis can bring structure to the messy data gathered from social media (Krippendorff, 2013). Content analysis is uniquely able to take diverse social media posts and make them systematized in order to analyze the posts easily.

#### **Procedures**

This study utilized quantitative analysis of social media posts during the Gatlinburg wildfires to observe how Twitter and Facebook are used by both the public

and organizations during a crisis. To answer research questions one through four, Salesforce Marketing Cloud's Radian6 software was used to gather publicly accessible Twitter and Facebook posts that met certain criteria in the search profile to produce the first sample. A search profile was created using various words, phrases, and hashtags, including #Gatlinburg, #Gatlinburgwildfires, and "wildfires" to discover relevant social media posts about the Gatlinburg wildfires. With the search criteria, Radian6 produced a River of News consisting of over 552,700 tweets total across the three days. November 28<sup>th</sup> produced 75,385 posts, November 29<sup>th</sup> produced 369,824 posts, and November 30<sup>th</sup> produced 104,491 posts. The researcher then exported 10,000 randomly selected tweets from each day of the study for a total of 30,000 tweets. Retweets were then removed and 1,000 original posts from each day were used for examination for a total sample of 3,000 posts.

In order to answer research questions five, a second sample was gathered from the Facebook and Twitter pages of the TEMA, SCEMA, FEMA, and the American Red Cross. Studies on crisis communication on social media have taken similar approaches including Guidry, Jin, Orr, Messner, and Meganck's (2017) study on the Ebola outbreak in which the researchers gathered posts from three specific organizations. Facebook and Twitter posts pertaining to the Gatlinburg wildfires on the organizations' pages were selected for analysis. In his article for *USA Today*, Tamburin (2016) stated that the wildfires started on November 28, 2016, and were completely extinguished by the following morning on November 29, 2016. However, a preliminary analysis of the data available on Radian6 revealed that wildfires continued to be a prominent discussion on

social media until November 30; therefore, the time frame for this study was November 28-30.

### **Data Analysis**

For research question one, a topic trends widget on Radian6 was used to gather posts that either tagged or referenced the American Red Cross or FEMA. This widget counted the number of tweets that referred to either organization in order to answer research question one. For research question two, the posts gathered manually from Facebook and Twitter were counted by the researcher to determine how many times each organization posted over the course of the fires.

As discussed earlier, a content analysis was used for this study. A detailed codebook (Appendix) was developed in order to accurately categorize Facebook and Twitter posts. For research questions three and four, the posts were coded as either affective or informative. In order to answer research question six, the coded posts were categorized based on the day that they were posted to analyze how the amount of informative and affective content changes over the three days of analysis.

For this study, the definitions of affective and informative content were borrowed from Walker (2014). Affective content has been broadly defined but was operationalized as any emotive need. An example of an affective post is one in which an individual expresses that they will pray for those involved in the wildfires. The following tweet is an example of an affective tweet, “Pray for Gatlinburg, Pigeon Forge, and other affected areas!! God Bless our GSMNP!!!”

Walker (2014) defined cognitive or informative expressions as an “intrinsic desire

for information and understanding” (p. 774). For this study, informative content was operationalized as any attempt to share or gain information from the organizations. An example of an informative post is one in which an individual asks the American Red Cross for shelter locations. For example, an informative tweet is “Tourist Park in #Gatlinburg #Tennessee had a massive evacuation of the area fire to the forest.” These definitions of affective and informative content were used to analyze the data pulled from both Radian6 and the organizations’ Facebook and Twitter pages to answer research questions three and four.

Through analysis during a pilot study, a codebook was developed in order to answer research question four (Appendix). In the pilot study, several subthemes were developed which were guided by past crisis communication research (Mazer et al., 2012). Mazer et al. found that thoughts and prayers and emotional reactions such as heartbreak were prevalent on social media during a crisis. The study also found that audiences shared information on the crisis as it occurred. A sample of 1,000 posts from the Gatlinburg wildfires were coded for either informative or affective content. During this coding, subthemes for both the informative and affective themes were developed and these subthemes serve as the basis for this thesis’ codebook.

Data collected was coded for either the presence or absence of affective and/or informative content. The subthemes of affective content were prayers and/or thoughts, disbelief, sadness, and memories. Posts that were coded as prayers and/or thoughts contained the words thoughts and/or prayers. Disbelief coded posts expressed that the wildfires are “unreal” or “unbelievable.” Posts coded as sadness contained words such as

“heartbreaking,” “tragedy,” and “sad.” The subthemes for informative content were inquiries about location, inquiries about damage, inquiries about aid, sharing information on aid and sharing news. Posts coded as either inquiries about location, damage, or aid, were those that contained questions regarding the location of people or the fires or about the extent of the damage or how they can help Gatlinburg in the aftermath of the fires. Sharing information about aid posts were those that contained information about how individuals can provide aid. Sharing news posts were those that shared a piece of information, experience, or story about the wildfires.

Intercoder reliability for the codebook was calculated using Cohen’s Kappa (K) and IBM’s Statistical Package for the Social Sciences (SPSS). Two coders coded 10% ( $n = 300$ ) of the total sample and established strong agreement with a reliability of .85 or greater for all themes and subthemes of the codebook. Table 1 demonstrates examples of each theme and subtheme with the correlating reliability statistic.

**Table 1** *Themes and Subthemes*

<b>THEMES</b>	<b>EXAMPLE</b>	<b>K</b>
<b>AFFECTIVE</b>		
<i>Prayers/Thoughts</i>	“Prayers for all the workers tonight trying to put out the fires in Gatlinburg and Pigeon Forge. Prayers for all the families evacuated.#rain”	.9
<i>Unbelief/Sadness</i>	“My heart is srsly breaking for Gatlinburg rn. Unbelievable. My trip with @samantttttha there and the Smoky Mtns is one I'll never forget.”  “Absolutely heartbroken over the images from #Gatlinburg tonight. prayers up for the safety of responders & evacuees”	.85
<i>Memories</i>	“childhood was spent in Gatlinburg. That place holds so many memories and seeing pictures of the fires puts me in tears. #prayforgatlinburg”  “My heart hurts for all those in Gatlinburg that's home away from home#prayforgatlinburg”	.85
<i>Anger</i>	“would you please cover the fires in Gatlinburg TN instead of all the political crap!”  “National park and treasured surround burns all the media talk about is Trump. #Gatlinburg #GreatSmokyMountains #thisiswhatiswrongwithAmerica”	.87
<b>INFORMATIVE</b>		
<i>Inquiries</i>	“Any news of Ski Mountain Rd area and @OberGatlinburg #gatlinburg”  “I've heard that the Smoky Mountain Castle is gone. Is this true? @GatlinburgTN @TravelGburg @VisitMySmokies #Gatlinburg #SmokyMtWildfires”	1
<i>Sharing Information about Aid</i>	“Donations being collected for #Gatlinburg”  “I'm raising money for Donation Request for Gatlinburg. Click to Donate.”	.96
<i>Sharing News</i>	“Visited Ripley's Aquarium #Gatlinburg Fire forces employees to leave 10,000 animals behind. Animals SAFE! @usatoday”	.87

## CHAPTER THREE

### RESULTS

#### **Organizational Social Media Use**

RQ1 explored the number of tweets that contained hashtags or links referring to the American Red Cross and FEMA. Radian6 produced a River of News which revealed that from November 28-30, 2016, there were a total of 4,923 posts with references to these organizations. Analysis revealed that there were 4,623 tweets with references to ARC and 300 tweets that referenced FEMA. For example, social media users posted, “A place I called home for 3 years is on fire. Everyone please donate to the @RedCross to help out the people of #Gatlinburg #Sevierville” and “#BREAKING #FEMA to reimburse #Tennessee for fighting fires,” effectively sharing donation information and news regarding the organizations.

RQ2 examined how often ARC, FEMA, TEMA, and SCEMA posted on Twitter and Facebook during the wildfires. Through analysis of the organization’s social media presence during the time frame, it was discovered that the only organization with a significant Twitter and Facebook presence was the local chapter of the ARC, American Red Cross of East Tennessee (ARCET). ARCET posted on Twitter a total of 32 times and Facebook 22 times. TEMA posted the second most with four Twitter posts and no Facebook posts. The ARC posted on Twitter once regarding the wildfires and once on Facebook. FEMA and SCEMA were essentially non-existent with one post each on Twitter about the Gatlinburg wildfires.



In order to analyze the type of content posted by the organizations to answer RQ3, the presence of the ARC, FEMA, TEMA, and SCEMA on Twitter and Facebook was further analyzed. An analysis using the developed codebook revealed that 95% of posts made by the organizations were informative rather than affective. For example, an informative post made by the ARCET was “If you or someone you know is in immediate danger from the wildfires, CALL 911! Posting on social media won't get you help from authorities!” The organization posted affectively when they wrote: “Our thoughts are w/ those near #Gatlinburg, TN where wildfires have forced evacuations.” However, the coding was not mutually exclusive and tweets could be coded as both informative and affective. For example, when ARCET posted “17 people met at our Blount County location to load a truck & take supplies to Sevier County for #wildfire relief efforts. Thanks, guys!” they were not only informing the public of the relief efforts, but also thanking their volunteers. The ARCET had a total of 51 informative posts on Facebook and Twitter and only seven affective posts. The ARC made one informative post and one affective post. Finally, FEMA, TEMA, and SCEMA had only informative posts. Table 2 demonstrates the amount and themes of posts by organizations.

**Table 2 Amount and type of posts by organizations\***

	<b>ARCET</b>	<b>ARC</b>	<b>FEMA</b>	<b>TEMA</b>	<b>SCEMA</b>
<b>FACEBOOK</b>	22	1			
<i>Affective</i>	2	1			
<i>Informative</i>	21				
<b>TWITTER</b>	32	1	1	4	1
<i>Affective</i>	5	1			
<i>Informative</i>	30		1	4	1

*\*Themes are not mutually exclusive; therefore, posts could be coded as both informative and affective*

## Content Types

Using the codebook, the coders coded 3,000 tweets in order to answer RQ4 which sought to examine the types of affective and informative content that is present on social media. The data was analyzed for the affective subthemes of prayers/thoughts, unbelief, sadness, memories, and anger as well as the informative subthemes of location inquiries, damage inquiries, aid inquiries, sharing information about aid, and sharing news.

20% of posts were coded as prayers/thoughts (n=603) which makes it the largest subtheme of the affective theme. Analysis revealed 468 (16%) unbelief and sadness posts. Posts coded as memories made up 8% of the total sample (n=253). Many individuals shared experiences that they had at Gatlinburg and referred to the town as their “second home.” Interestingly, many posts that were coded as memories were also coded as sadness as individuals expressed a deep concern or heartbreak over the town that holds a special place in their heart. There was a total of 109 posts (4%) that expressed anger at other social media users for their inappropriate humor or anger at the mainstream media for not giving the wildfires enough media attention.

Regarding informative subthemes, the sample was analyzed for the subthemes *inquiries*, *sharing information on aid*, and *sharing news*. There were 22 posts (.01%) that contained questions about the wildfires. Sharing information on aid comprised .06% (n=175) of the total sample.

There was an additional theme that presented itself within the subtheme of sharing information on aid: Dolly Parton. Many individuals posted that Dolly Parton would be providing aid in the form of a \$1,000 donation to each family affected for six months. An

example of this theme is “Amazing...@DollyParton announces fun to give \$1,000 a month to families who lost their homes in #Gatlinburg #pigeonforge fires. Thank you.”

The *sharing news* subtheme included posts where individuals shared information about the location, damage, stories, and experiences during the wildfires. There was a total of 539 posts (n=18%) coded as sharing news and was the largest subtheme of the informative theme. Many individuals shared information about the wildfires.

### **Content Timeline**

RQ6 analyzed how the amount of informative and affective content posted changed over the course of the wildfires. The analysis found that between the dates of November 28-30, 2016, individuals posted more for affective purposes at the beginning of the wildfires but as the fires continued and were eventually extinguished, individuals posted for more informative reasons. During the first and second days of analysis, affective posts were posted more frequently than informative posts. However, the number of affective tweets dropped by 172 tweets and informative tweets rose by 165 between days two and three.

The most significant drops in subthemes between days two and three were that of prayers/thoughts which reduced by 137 and sadness which dropped by 118 tweets. The subtheme of memories did not have as many posts but it followed the same pattern as prayers/thoughts and sadness with a large decline of 60 posts between days two and three. Although other affective subthemes had dramatic drop-offs between day two and three, the anger subtheme declined steadily between all three days. It had a 33 post

decline between days one and two followed by a 23 post decrease on day three. The affective subtheme of disbelief was essentially non-existent.

Across the three days, there were a total 1,254 informative posts. Out of the informative posts, location inquiries, damage inquiry, and aid inquiry posts were almost nonexistent with a total of 41 tweets for all three subthemes between the three days of analysis. The sharing information about aid subtheme rose the most between day two and three with a 157.7% increase. It is worth noting that the sharing news subtheme had a drop during day two but quickly rose again on day three. Sharing information about aid had a significant increase between days two and three with 75 more posts on the final day. Table 3 demonstrates how the number of different types of content changed over the course of the fires.

**Table 3** *Timeline of types of content\*\**

	28-NOV	29-NOV	30-NOV
<b>AFFECTIVE</b>	710	658	486
<i>Prayers/Thoughts</i>	286	227	90
<i>Unbelief/Sadness</i>	176	206	86
<i>Memories</i>	115	99	39
<i>Anger</i>	66	33	10
<b>INFORMATIVE</b>	339	375	540
<i>Inquiries</i>	5	6	11
<i>Sharing information about aid</i>	14	45	116
<i>Sharing news</i>	191	137	211

*\*\* Themes and subthemes are not mutually exclusive; therefore, one post could be coded as multiple themes and subthemes.*

## CHAPTER FOUR

### DISCUSSION

This thesis explored social media use by individuals and organizations during a crisis, specifically the 2016 Gatlinburg wildfires. Analytics of social media posts using six specific research questions during the Gatlinburg wildfires provided perspectives on how individuals communicate with each other and organizations during a disaster. The application of media dependency theory and the social-mediated crisis communication model provided insights into the posting behaviors of both the public and organizations. This analysis can provide beneficial tools for the public and organizations on how to use social media effectively during a crisis.

How the public uses social media during a crisis has been a theme in many prior studies (Mazer et al., 2015; Lachlan et al., 2014b; Spence et al., 2015). Through the analysis of 3,000 social media posts, this thesis aimed to gain a better understanding of how the public and organizations use social media during a crisis. This specific analysis revealed several significant behaviors by the public and organizations as well as themes that can help scholars and the public gain a deeper understanding of social media crisis communication. The results of this study have both theoretical and practical implications as well as present interesting findings on the type of content posted during a crisis. There are also certain limitations of this research and future research possibilities.

## **Theoretical Implications**

### *Media Dependency Theory*

Media dependency theory states that individuals will each have their own preferences when deciding which types of media to rely on during different scenarios (DeFleur & Ball-Rokeach, 1989). During a crisis, MDT predicts that individuals will turn to their preferred media for information. This thesis demonstrated that the majority of posts on social media regarding the wildfires were affective. This differs from the findings of Mazer et al. (2015) in the active school shooter incident where informative displays were dominant but is consistent with other research studies on crises that have found affective content is more prominent on social media than informative content (Lachlan et al., 2014; Spence et al., 2015).

This thesis demonstrated that individuals use social media during crises to meet their affective needs through the prominence of affective posts Lachlan et al. (2014b) found in the case of the Boston snowstorms that individuals posted more affective content on Twitter than informative content. Spence et al. (2015) also found during Hurricane Sandy that individuals used Twitter to meet their affective needs. This could be because natural disasters, specifically wildfires, are unexpected and difficult to predict which turns events quickly from preparation to the actual occurrence of the disaster. When the disaster is in process, individuals can no longer seek information to prepare and turn to supportive efforts instead.

Through the amount of posts available for analysis, this thesis demonstrates that many people actively use social media during a crisis; however, it is possible that social

media may not be viewed as a trustworthy or valid source to gather information. MDT states that individuals will have their own preferences when choosing which media to depend on. Past research has shown that individuals use other types of media than just social media during a crisis (Austin et al., 2012). The amount of affective and informative posts demonstrate that individuals have both informative and affective needs during a crisis and may also turn to different types of media to have their distinct and specific needs met. For example, an individual could post on Twitter to meet their affective needs, but then use more traditional media sources, such as television, for their informative needs.

MDT also posits that during times marked by high uncertainty individuals will make different choices regarding the media they typically use to get information (DeFleur & Ball-Rokeach, 1989). Pew Research Center reports that 74% of Facebook users use the site daily (Smith & Anderson, 2018). While many individuals use social media on a daily basis, it is possible that during a crisis the public makes different choices regarding how they get their information.

Media dependency theory predicts that individuals will have preferences on where they get their information. Due to the rapid change and uncertainty in crises, as well as the possible view of social media as invalid, public may turn to other social media to have their informative needs met. However, social networking sites are viewed as acceptable media for affective needs.

#### *Social-Mediated Crisis Communication Model*

The social-mediated crisis communication model states that there are three parties

involved in social media crisis communication: influential social media creators, social media followers, and social media inactives (Austin et al., 2012). These three social media users will each interact with one another during crises. This thesis analyzed the posting behaviors of social media creators through the exploration of organizational social media use and the actions of social media followers.

The results indicate that while organizations have been categorized as influential social media creators in past research (Wan, Koh, Ong, & Pang, 2015), they do not always control the conversation during a crisis. In the case of the Gatlinburg wildfires, organizations posted very little and, therefore, were not meeting either the informative or affective needs of their audience. Lachlan et al. (2014) found similar results in their study on Hurricane Sandy. In an analysis of 1,630 tweets containing #sandy, only 93 were from organizations. It is evident that in crisis situations, organizations are not using social media to share information. However, Kavanaugh et al.'s (2011) study on social-mediated crisis communication found that the public is looking to organizations to be the one to share information on social media during a crisis.

In relation to the SMCC, because a social media account represents a well-known individual or organization does not necessarily mean that they will be influential. Notoriety among the public does not automatically categorize a social media user as influential during a crisis. This is evident due to the lack of posts by the majority of organizations used in this analysis. Information changes rapidly during a crisis; therefore, influential social media users will be the individuals providing the most up-to-date information quickly. However, according to the SMCC individuals watch influential



social media users for information; therefore, organizations need to place a focus on rapid information dissemination in order to become an influencer.

Analysis of organizational social media use revealed that during a crisis, local organizations or chapters will be more likely to use social media to disseminate information during a crisis. The ARCET posted significantly more on social media than either of the other organizations with a total of 53 posts. Fifty-three social media posts are a considerable amount of posts by one entity in the time period of analysis which shows that the local chapter of the ARC was trying to disseminate information.

Research on organizational use of social media during a crisis is limited, but it is possible based on the analysis that organizations are more likely to use local platforms rather than national platforms to share information. Lachlan et al. (2014b) found similar results in their study of localized hashtags during the Boston snowstorms. Analysis of #bosnow found that localized hashtags are used predominantly by the public and could be more successful than a more general non-localized hashtag in sharing informative and affective tweets. While it is possible that the American Red Cross has already turned to more localized efforts to disseminate information during a crisis, as exemplified through the wildfires, they could utilize local hashtags on their national page in order to share information more effectively. During a crisis the public is looking for specific and relevant information and the use of local hashtags and organizations will lead to more effective social-mediated crisis communication between organizations and the public.

The SMCC indicates that organizations are separate from key influencers and need to use influencers in order to spread the organizations message (Austin et al., 2012).

However, this aspect of the SMCC may need to be revisited as organizations are starting to use social media themselves. It is possible that organizations should become influential social media influencers so that their messages meet the needs of the audiences. Through establishing messages that will be actively sought by the audience, organizations can ensure that the correct information is making it to the public.

Analysis revealed that organizations have specific purposes for using social media during a crisis. Through this analysis it appears that when organizations use social media for crisis purposes it is for overwhelmingly informative reasons. Organizations are more likely to use social media to share information during a crisis rather than show affective support. While research has been completed on the how the American Red Cross used social media to communicate throughout a crisis (Liu, Jin, Briones, & Kuch, 2012) as well as how often organizations post during a crisis (Lachlan et al., 2014b), the research is limited on what type of content the organizations post during a crisis. Past research runs parallel with this current study on the lack of knowledge and use of social media use by organizations during crises. According to the Kavanaugh et al. (2011), organizations use social media “without knowing its costs and benefits, or who their actual audience is, who in their organization should monitor communications, how and when they should be responding, and what effect their social media communications have on the public” (p. 5). Through examination of themes, it is evident that organizations are only aware of how to disseminate informative content through their social media pages. According to the SMCC, social media influencers address both the informative and affective needs of the

social media follower (Austin et al., 2012). Organizations need to be ready with insider information as well as affective posts in order to become social media influencers.

Deeper analysis of the relationship between the public and organizations during a crisis found that there was a political subtheme in posts either tagging or referring to FEMA. The presidential elections took place only three weeks before the fires and the heightened political tensions in America could have caused this to happen. These results support the SMCC by demonstrating that during an event that gathers national attention, the people are looking at the president and government agencies to see how they will react.

Through the use of the SMCC, this thesis has shown that organizations, both non-profit and government-run, have the ability to become social media influencers, but should not be automatically given the status until they have produced valuable content. Most of the public using social media during a crisis are social media followers and look to social media influencers for information that they can share. As a model, the SMCC provides valuable insights for crisis managers; however, it should be considered to include organizations in the influential social media creator role as they are starting to become active on social media during crises.

## **Type of Content**

### *Affective Displays*

The majority of posts were coded as one of the affective subthemes: thoughts and/or prayers, disbelief, sadness, memories, and anger. The prominence of the subtheme of *thoughts and/or prayers* is consistent with other research on crisis communication

(Mazer et al., 2015). In their study on an active school shooting event, Mazer et al. (2015) found that there were a large number of posts that had not only general prayers but also specific prayers for the individuals involved in the event. Social media presents an avenue for individuals to express their emotional support with the general public involved in the disaster. The study also found that the majority of posts coded as *memories* were also coded as *sadness*. Unsurprisingly, memories of a location before a crisis can oftentimes lead to sadness while thinking about those memories during and after the crisis.

The theme of *anger* emerged during coding. Many of the posts coded as anger showed emotion towards other social media users for their insensitive remarks or made reference to the United States' current and future government. As exhibited by the number of posts referring to memories, Gatlinburg is a beloved town to many and, therefore, it is possible that people may be less likely to tolerate insensitive and humorous remarks towards the situation as well as berate the media for not showing it enough attention. The previously discussed heightened political tensions at the time explain the influx of anger towards the U.S. government.

### *Informative Displays*

Analysis revealed that individuals are not likely to actively search for information by asking questions through social media; however, they will actively share it. Social media users may not ask questions but rely on others to provide them with the information needed through sharing. These findings could indicate that individuals are experiencing information by reading other user's posts rather than actively seeking it by

asking questions. This could mean that individuals are less likely to rely on the social dimension of social media during a crisis. However, this could also be accredited to the number of posts that were from Twitter versus Facebook. As a platform, Twitter focuses on “microblogging” rather than conversation and lends itself to sharing information rather than having an interactive experience. It is possible that Twitter is not considered an appropriate platform for conversation during a crisis, and therefore, people are less likely to interact with one another on the site. However, interaction on Facebook could be more likely due to the absence of the limitations on characters and individuals could be more likely to engage in digital conversations regarding the crisis.

Individuals did more than just offer support in the form of thoughts and prayers as seen through the amount of posts regarding providing aid. Within the aid theme, many people posted about Dolly Parton’s charitable giving positively. Dolly Parton is an important individual within the Gatlinburg community with the prevalence of her theme park, Dollywood, as well as several other attractions. She also has many charities that support her home state of Tennessee, including The Dollywood Foundation. Based on the SMCC individuals will look to social media influencers to see what type of information they will provide about a crisis (Austin et al., 2012). Dolly Parton, while not a direct social media user in this case, could be considered an influencer based on her celebrity status; therefore, social media users are watching to see what she will do. However, Gatlinburg is a town known for its tourism, so it is possible that this is a phenomenon based on the fact that Dolly Parton has an important role in that tourism.

### *Content Timeline*

Regarding how the type of content posted changed over the course of the wildfires, analysis found that the number of affective posts declined over the course of the crisis as the number of informative posts gradually increased. It is possible that as uncertainty is reduced, individuals believe that the information available is concrete and, therefore, feel more comfortable sharing it on social media. This is exhibited through the increase of informative posts on day three. These findings on affective and informative content differ from previous research on crisis communication that found that informative content is more prevalent at the initiation of the crisis (Lachlan et al., 2014b; Spence et al., 2015).

The subtheme of prayers and/or thoughts had a significant decline between days two and three while sharing information about aid had dramatic increase between the same two days. The fires had been completely extinguished by the end of the second day (Tamburin, 2016). When a crisis is no longer actively threatening people or places, individuals turn from affective support to offering information on how to offer tangible support in the form of aid. However, it is possible that it was not until after the fires had been extinguished that opportunities to provide aid became available which would result in a spike of posts regarding aid.

### **Practical Implications**

This research had many beneficial findings for both organizations and social media sites. Analysis revealed that individuals will reach out to organizations for more informative content rather than affective content. Organizations need to make an effort to

watch their personal hashtag (#redcross) and their Twitter page to see what type of information people need. This can be done effectively by having a social media director or communications employee doing this one task. It should be noted that many organizations involved in crisis aid are non-profits and therefore have limited resources; however, through prepared social media messages for crises and an individual willing to take on the task, organizations could still become more present on social media during crisis.

It is possible that if organizations are going to communicate during a crisis they will do so through a local chapter's account exemplified by the amount of posts from the ARCET. It would be beneficial for the more nationally recognized chapter of an organization to advertise that information can be found on a different page. For example, in the case of the wildfires, the ARC rarely posted while ARECT posted frequently. The ARC's main page should advertise the more detailed information regarding shelters and news could be found on ARCET's page. By doing this, organizations can avoid cluttering their main pages while also making sure people are getting the information that they need.

Social media sites can also play a part in sharing information during a crisis. During times of crisis, it would be beneficial for social media sites to dedicate specific pages to disseminate helpful and certified information, so people do not have to wade through unnecessary content, such as spam and affective posts. Facebook has already taken steps in this direction with their safety check, but more can be done. This raises the question if social media sites should dedicate their resources to helping during a crisis or

if they should allow individuals to crowdsource information. There is no correct answer to this dilemma, but social media sites such as Twitter should recognize their potential to help in situations marked by high uncertainty and enhance their sites appropriately.

## **Limitations**

Although this research produced interesting results for how organizations and the public utilize social media during a crisis, there are limitations. The low number of tweets was a limitation of this study. After all the retweets had been removed, the amount of data for analysis and interpretation was slim. Other research on crisis communication has studied 20,000 or more tweets (Spence et al., 2015). With the use of retweets in the data, the dataset would have been more robust and able to produce findings on the type of information that people will retweet. Also, the data gathered was not able to differentiate between posts that came from Facebook and those that came from Twitter. The inclusion of this data could be beneficial to organizations for them to develop posts that are more likely to be retweeted or reposted in order to get useful and valid information to the masses.

Data was gathered using Radian6, which sources a large number of posts at one time. While this software is valuable for gathering a lot of data at once, it also mainly sources data from Twitter. Due to privacy settings, the software is not able to gather many posts from Facebook. Manually gathering posts from Facebook, while not as efficient, would have allowed the researcher to gather more diverse data and become intimately familiar with it. Additionally, Radian6 does not currently have the ability to gather posts from Snapchat and Instagram, two social media sites that are currently on the



rise (Smith & Anderson, 2018). A form of data gathering that allows access to all social media sites would allow communication scholars a more robust evaluation of social media communication practices. Due to the difficulties in gathering publicly accessible data from Snapchat and Instagram, this type of tool does not yet exist. However, communication scholars might collaborate with software developers to explore the possibilities.

For this thesis, only one crisis was studied. An examination of different types of crises, including a shooting, organizational, and political would have benefited this thesis. The combination of different types of crises would have provided a diverse set of data and produced more generalizable results. For example, while an active shooter crisis and a natural disaster both possess uncertainty, they also have inherent differences, such as timing and organizations involved. By being able to use both of these types of crisis, researchers would be able to examine if the same social media behaviors by both the public and organizations apply in each situation. While separate studies have been done on different types of crises, combining them into one study would allow for the same research questions and methods to be applied. If the results do apply to each different scenario, then it can be assumed that the results would transfer over to other crises as well. More generalizable results can allow the findings to be applied in many different situations and will provide practical applications for crisis managers regardless of the crisis they are managing.

In order to better apply Fink's (1986) model of a crisis' progression, a longer time frame could have been used. Fink's model focuses on the different stages of a crisis, but

due to the limited time frame, this research was not able to study the final stage of the model. Incorporating the final stage, resolution, would have allowed the researcher to more accurately examine how social media changes as a crisis reaches conclusion.

### **Future Research**

In order to combat some of the previously mentioned limitations, future research is needed. Research on the relationship between location and type of content would be beneficial for social media crisis managers. The progression of content found in this study differed from similar studies (Lachlan et al. 2014b; Spence et al., 2015). Past research has focused on residential cities (i.e., Boston) while this study focused on a city known for tourism. It is possible that tourist destinations will produce more informative content earlier that then develops into affective information; however, more research is needed in order to test this.

While the use of MDT was able to provide valuable insight into why individuals seek specific types of social media content, uses and gratifications theory (UGT) might also be used in future studies that employ social media analytics. UGT examines why individuals choose certain media and what pleasures they receive from that chosen media (Ruggiero, 2000). This study could have been served by the use of UGT that would have allowed the researchers to study an additional dimension to the data, including analyzing the underlying motivations behind *why* individuals choose specific media sites such as Facebook and Twitter. This is not to say that MDT was not an appropriate theoretical background for this study; however, the addition of UGT will present more options for theoretical inquiry in future research when combined with MDT.

There are inherent differences between the two major social media sites Facebook and Twitter. Future research that analyzes the differences between the two social media sites and how those differences affect what individuals are seeking during a crisis would provide valuable insights into how messages need to be tailored depending on the specific site. The addition of Instagram to future crisis communication scholarship would provide information on visual communication during a crisis. The utilization of this platform will play an important role in future communication research as it becomes more prevalent. Instagram continues to become more popular (Smith & Anderson, 2018), therefore, communication scholars might analyze how visual social-mediated communication affects crisis communication. There are inherent differences between visual and verbal communication, such as the use of images to share a message with visual communication rather than using words with verbal communication. The two types of communication can often complement one another, but it is thought that visual communication has the potential to be more powerful than verbal (Kacharava & Kemertelidze, 2016). Research on how these two types of communication interact and affect crisis communication can be beneficial to communication scholars.

Past research has focused mainly on the use of social media by the public during a crisis. However, organizations have the potential to be social media influencers as defined by SMCC (Austin et al., 2012). Since organizations can control the conversation during a crisis, more research needs to be done that focuses on how organizations use and can use social media to communicate beneficial information during a crisis. While this

study found that organizations do not post frequently, more research could provide them with insights that could spur them to use social media more often.

With millions of users across the globe, social media are no longer the *future* of communication, they are *currently* one of the most prevalent forms of communication. More research from communication scholars on the possibilities and nuances of social media is needed. Social media analytics presents researchers with the ability and opportunity to provide the public with information on effects, benefits, and new developments of a communication form they use daily. Crisis, politics, business, and education are only a few of the many ways that sites like Facebook and Twitter can be utilized. Social media are the “here and now” of communication and communication scholars should not miss the opportunity to study this worldwide phenomenon.

## **Conclusion**

The objective of this thesis was to discover how organizations and the public used social media during the 2016 Gatlinburg wildfires. Analysis found that individuals have specific reasons for using social media sites during a crisis including both informative and affective needs. These results present many opportunities for organizations and social media sites to improve.

Both media dependency theory and the social-mediated crisis communication model demonstrate that individuals and organizations will have specific reasons for using their chosen form of social media during a crisis. Social media has proven to be a prevalent source that people use during a crisis (Lachlan et al., 2014a; Lachlan et al., 2014b; Mazer et al., 2015; Spence et al., 2015). Organizations have an opportunity to

become influential on social media and provide the public with valuable and valid information.

The results of this thesis run parallel to past communication research on social media crisis communication. Individuals are more likely to use social media during a crisis for affective needs rather than informative (Lachlan et al., 2014a; Lachlan et al., 2014b; Spence et al., 2015). Interestingly, in the case of the Gatlinburg wildfires individuals posted affectively while the fires were happening and then eventually posted more informatively after the fires had been extinguished. Since there are differences between this study's results and past research, more research is needed in social media crisis communication so that crisis managers can know what type of information or support the public is looking for at the different stages of a crisis.

Posts from organizations, both federal and non-profit, were found to be almost non-existent, with the local chapter of the American Red Cross having the highest amount of posts. It is evident that individuals are turning to social media during a crisis and organizations need to be more present on sites such as Facebook and Twitter. Through the use of dedicated social media personnel, organizations will be better able to coordinate communication on social media during a crisis.

There are currently many social media sites and more are created frequently. While some of these sites will fail or fade away with time, it is evident that social media will continue to be a ubiquitous form of communication in society today. While significant studies have been completed on social media crisis communication, there is still much to be discovered including the impact of different social media sites (i.e.,

Instagram) during a crisis. Through the use of social media analytics, communication scholars should be at the forefront of making new and interesting discoveries about the role of social media in crisis communication.

## APPENDIX

### Gatlinburg Wildfires Codebook

#### PART I: Type of Content

***Indicate if each type of content and subthemes are included in the post.***

**(AFF) Affective Content.** Contains feelings and/or emotional support. (Ex. A post that expresses heartbreak over the wildfires.)

1=Yes

2=No

#### **Subcategories of Affective Content.**

*Prayers and/or thoughts.* Does post state that they will be thinking and/or praying (ex. expresses their prayers will be with those affected by the wildfires)?

1=Yes

2=No

*Unbelief.* Does post express unbelief (ex. expresses that an individual cannot comprehend what has occurred)?

1=Yes

2=No

*Sadness.* Does post state feelings of sadness (ex. expresses heartbreak)?

1=Yes

2=No

*Memories.* Does post discuss past events at Gatlinburg (ex. discuss events from childhood at Gatlinburg)?

1=Yes

2=No

*Anger.* Does post state feelings of frustration or anger (ex. upset with government for inaction)?

1=Yes

2=No

**(INF) Informative Content.** Contains information or inquiries (ex. asks a questions about location and/or power outages).

1=Yes

2=No

**Subcategories of Informative Content.**

*Inquiries about location.* Does the post contain questions regarding locations (ex. an individual asking where the fires are)?

1=Yes

2=No

*Inquiries about damage.* Does the post contain questions about damage (ex. an individual asking which structures have been effected)?

1=Yes

2=No



*Inquiries about providing aid.* Does the post contain questions regarding giving aid (ex. an individual asking how to donate to the American Red Cross)?

1=Yes

2=No

*Sharing information on providing aid.* Does the post contain information on how to provide aid (ex. a post containing a link to donate to the American Red Cross)?

1=Yes

2=No

*Sharing news.* Does the post share news (ex. sharing the number of lives lost due to the wildfires)?

1=Yes

2=No

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