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Panic! Looting! The prevalence of disaster mythology on Fox News Online and CNN Online when reporting on Hurricane Harvey and Hurricane Irma.

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Abstract

The aim of this research project was to establish whether or not the known sociological concept of disaster myths were used by CNN and FOX in their online coverage of 2017 Hurricanes Harvey and Irma. After investigating if disaster myths were used, further analysis was conducted as to how the disaster myths were used and represented.

By conducting a content analysis, a framing analysis and a discourse analysis, it was established that when reporting on disasters in the USA both CNN and FOX in their online coverage of Hurricane Harvey seldom used disaster myths. When disaster myths were used, these were primarily the myths of panic and low community morale.

In contrast location appeared to factor greatly into the reporting and representation of Irma, with FOX online primarily reporting on the impact Irma was having on the USA. In contrast CNN online focused on the impact of Irma both inside the USA and outside the USA. However CNN made frequent use of the disaster myths of looting and anti-social behaviour when reporting on events outside the USA.

Disaster myths appear to be uncommonly used when reporting on events occurring inside the borders of the USA, however disaster myths are frequently used when reporting on events occurring outside the USA. The myths of panic and looting are still being used despite years of research proving that people tend to not abandon all societal norms during and after a disaster situation.

DECLARATION

Submitted in fulfilment of the requirements for the degree of Master of Arts, in the Graduate Programme in Media & Cultural Studies, University of KwaZulu-Natal, Pietermaritzburg, South Africa.

I, Liezel Fourie (216066766), declare that:

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Student: Liezel Fourie

Signature



Supervisor: Dr Claire Scott



Signature

February 2022

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*Dedicated to Mark.
Your presence is sorely missed.*

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Chapter 1: Introduction

This study set out to examine the prevalence of disaster mythology discourse(s) in the CNN and FOX News online coverage of hurricanes Harvey and Irma and how the use of disaster mythology impacted the framing and representation of these events.

This study examined the idea of disaster mythology and how it impacted the media representation of disaster events, in this case, Hurricanes Harvey and Irma. Disaster myths refer to the sociological idea and the subsequent research that has found that people respond well to disaster situations, despite expectations that people might panic, loot, act anti-socially, become helpless, or express a reluctance to rebuild. The media representation of these disaster myths is examined through the reporting on hurricanes Harvey and Irma, using a content analysis to determine how many disaster myths are present and, if present, used by which networks. Analysis of reports on hurricane Irma also enabled the examination of the role of geography in newsworthiness and the use of disaster mythology. Hurricanes Harvey and Irma were also examined using a framing analysis. This framing analysis was then used to ascertain which frames appeared in conjunction with which disaster myths. The discourse analysis examined the representation of disaster myths when used in online reports on Hurricanes Harvey and Irma.

1.1 Background to Research

In 2018, when the UKZN Ethics Committee approved this research, South Africa had not experienced any significant disasters such as cyclones in recent years. While South Africa had experienced local disasters, they were not given a significant amount of media attention. The COVID-19 pandemic in 2020 brought to light how intrinsic some of the disaster myths were in South African and international spheres of government. Indeed, governments at times used the excuse of not wanting people to panic as a reason to withhold information.

Living in a town impacted by the civil unrest that took place in 2021, the civil unrest and the looting that followed was consistent with literature around looting after civil unrest. Quarantelli's 2008 paper "Conventional Beliefs and Counterintuitive Realities", which is based on field work done by Quarantelli, discusses the likelihood of looting after disasters versus the

likelihood of looting during periods of civil unrest. Quarantelli (2008:883) found that looting after civil disturbances was “socially approved, with the looting taking place at targeted sites.”

However, for this study, the focus was on media coverage of hurricanes, and specifically the use of disaster myths during the reporting of Hurricanes Harvey and Irma on the online platforms of CNN and FOX News. Articles from CNN and FOX were examined to see how prevalent disaster myths were. This study also considered the discourses used when reporting on disasters and the framing that occurred when reporting on these events.

1.2 Research Focus and Questions

2017 was a year that had numerous notable hurricanes; Irma, Harvey and Maria all made landfall in 2017. I initially considered studying Hurricane Maria and the disaster myths used when reporting on Hurricane Maria. However, it soon became apparent that Maria would meet Quarantelli’s (2008) definition of catastrophe and would thus not be suited for this research project. (See Literature Review chapter for discussion differentiating disaster and catastrophe.) Hurricanes Irma and Harvey were also attractive from a research perspective, as Harvey only impacted the continental USA, whereas Irma impacted the geographical areas of the USA and other Caribbean Islands. Using the Emergency Events Database as a source, Irma was the cause of 152 deaths, and Harvey was the cause of 88 deaths (EM-DAT | The international disasters database, n.d.). This decision to examine media coverage around both hurricanes that impacted different geographical areas also aided the research in understanding what the American media, and the two different networks, consider newsworthy when reporting on natural disasters. The term disaster is in itself a term that is not easily defined. Indeed, various theorists define disaster differently, but for this study, disaster will be defined, as per Quarantelli, (2005:339), as “inherently social phenomena and ... that the source of disasters is rooted in the social structure or social system.”

Consequently, the research questions for this project consisted of the following: What evidence of disaster mythology appears in the CNN and FOX online news coverage of hurricanes Harvey and Irma? When disaster myths are present, which myths are most frequently used? Which online news source uses disaster myths the most? How are articles about Harvey and Irma framed, and what impact does the use of disaster mythology in an article have on the framing? Moreover, how are disaster myths conveyed through the representations and use of discourse?

1.3 Use of Disaster Myths in News Coverage

The notion of *disaster mythology* was extensively studied by sociologists Quarantelli and Dynes amongst others. Disaster myths mean that while certain behaviours such as panic and looting may be expected after a disaster, these beliefs are contrary to years' worth of research arguing that people do not respond this way after a disaster. Understanding the sociological theory of disaster mythology and the actual human behaviour of how people react when faced with disaster is an integral part of this project. Disaster myths were vital to this research, hence this research had chosen to focus on the disaster myths of: panic, anti-social behaviour, looting, paralyzing shock and helplessness, low community morale, and local organisations being ineffective.

The disaster myth of panic appears to be rampant within the psyche of the general public and the media (Nogami 2016, Nogami 2018). However, people are inclined to “equate(s) panic with inappropriate flight behaviour away from a response to threat or danger” (Quarantelli, 2008:878). Instances of true panic can be attributed to the complete breakdown of societal norms and values (Quarantelli, 2008:879). Quarantelli (2008:880) and other disaster researchers such as Clarke (2002), Nogami (2017) and Lorenz et al. (2017) conducted many years of research to investigate how common panic is after a disaster situation; they “found clear-cut cases of collective panic flight in less than 100 disasters in a half century of professionally looking for the phenomena.” Unfortunately, people seem to mistake panic for fear. Fear in the face of disaster is an expected response; panic is not (Ntontis et al., 2021). The use of panic when discussing disaster mythology raises an interesting question. What is panic? The use of the term panic in a sociological sense, and as is relevant for this study, implies a complete breakdown of societal norms, with people acting in selfish ways with little to no regard for others (Quarantelli, 2008).

The perception of panic and how people believe they themselves and others would react has led to some interesting and notable research. An ethnographic study by Nogami (2016) surveying Japanese respondents examined the role of panic and how people believed they would react when faced with a disaster situation. Nogami (2016:252) found that people were more inclined to believe that others had panicked in prior disasters and would panic in future disasters, while they themselves would not panic. A similar study conducted in Germany by Lorenz, Schulze and Voss (2017:362) yielded similar results, with respondents surveyed far

more likely to believe that others would panic (62.3%), yet only 5% of respondents believed that they would panic in a disaster. As such research by (Nogami, 2016; Lorenz et al., 2017) indicates that while people anticipate that those around them may act in ways that deviate from social norms, people also appear to believe that they will not act in this way. These results affirm the prior research done by Drury, Novelli and Stott (2013:2263) wherein United Kingdom based respondents were asked whether or not they endorsed the myth of panic after a disaster situation and “stewards, general public and students” all agreed with the notion of general mass panic occurring”.

Linguistically the term looting implies to take or to rob what is not yours (Quarantelli 2008:881). The belief that looting will take place after a disaster may inform the behaviours of civilians and first responders when responding to a disaster. Looting may very well occur after disasters; however certain social conditions tend to exist in places where looting occurs after a natural disaster. Quarantelli (2008:882-883) found “with looting seemingly occurring more often than not in developing systems.” The disaster myth of anti-social behaviour focuses on the mistaken belief that people are going to act in ways that are contrary to normal societal standards. Unfortunately, the anti-social myth was frequently used by the media when reporting on Hurricane Katrina to the detriment of those impacted by Katrina (Tierney, Bevc and Kuligowski, 2006). The belief in anti-social behaviour and looting also impacts emergency response to these disaster events, with resources being taken away from search and rescue to focus on preventing crime after disaster events.

The disaster myth of paralyzing shock and helplessness implies that those impacted by a natural disaster will be paralysed by shock and fear and unable to help themselves. Research by Quarantelli has found that contrary to the idea of paralysing shock and helplessness, survivors are more inclined to aid others prior to emergency responders arriving on the scene (Quarantelli, 2008:886).

The myth of low community morale myth suggests that there may be a reluctance to rebuild after a disaster. The belief in this myth also suggests that sending a person to show solidarity can counter any demoralisation (Quarantelli and Dynes, 1972:5). Quarantelli and Dynes (1972:27-28) have found that while people may indeed experience immense hardship after a disaster, that hardship is experienced in solidarity with other community members who are also

experiencing hardships, and therefore “suffering in the disaster context is not an isolated experience.”.

The myth of local organisations being ineffective suggests that local organisations will be overwhelmed, and first responders may abandon their roles in order to look after their own families. In most disaster situations local resources ought to be enough to adequately manage the situation. However, because of the belief in the myth outside agencies are often sent to disaster-stricken areas to take control (Quarantelli and Dynes, 1972:2,5,18-25).

The media plays a vital role in disasters. The media can provide warnings and give people information. When things go wrong or governments neglect victims, the media can draw attention to this. The media can also be detrimental to those impacted by disasters by reporting rumours as facts and perpetuating disaster myths. Media influence is such that the decisions made by the editorial staff and others in the media corporation may influence the aid received by victims of disasters (Tierney, Bevc and Kuligowski, 2006).

After Hurricane Katrina and the failure of the media, the government and others to adequately deal with the aftermath, a great deal of research was published examining the media’s role in the perpetuation of known disaster myths and the consequences thereof. Indeed, research by Tierney, Bevc and Kuligowski (2006) has found that in the aftermath of Hurricane Katrina, the media portrayed those impacted as not worthy of sympathy. Indeed, some survivors were portrayed, not as victims of a dismal government response but as opportunistic criminals, enriching themselves while those around them perished. The research conducted by Tierney, Bevc and Kuligowski (2006) that this depiction of unworthy victims impacted the aid received by victims of Hurricane Katrina.

As such, the study and use of the term disaster mythology within the context of online media was not merely a theoretical exercise. The belief in disaster myths can lead to real-world consequences for those most vulnerable after disasters: the victims. Scanlon (2011:235) succinctly describes the role of the media and the consequences thereof best by arguing:

Mass media participation is critical, for example, for effective warning and the mass media may be the glue that binds societies in certain occasions. Yet the media are also

responsible for many of the misconceptions that exist about disaster, misconceptions that may lead to errors of judgement when disaster strikes.

Disaster myths and the use thereof by the media may also impact civilians' behaviour prior to, during and after disasters. Research by Nogami (2019) and Lorenz, Schule and Voss (2017) also shows that people appear to expect mass panic and a breakdown of societal norms. Disaster myths also have unintended consequences. For instance, people appear to show a reluctance to evacuate, often to their own detriment due to the pervasive myth that opportunistic criminals might loot their homes. Research, including surveys and interviews, show that this reluctance to evacuate might be because people appear to genuinely believe that in the event of a disaster situation, their homes and businesses will be looted (Lorenz, Schule and Voss 2017; Nogami 2018).

Research by Tierney, Bevc and Kuligowski (2006), Nogmai (2015), Nogami (2018) and Lorenz, Schulze and Voss (2017) has shown that when government officials who often get information from the media believe in disaster mythology, the government's response to the disaster may be affected, with resources being allocated in a manner disproportionate to the event. This may lead to instances where resources are diverted from search and rescue to security in order to prevent what some may believe to be the imminent threat of looting, to the detriment of victims who require help from search and rescue teams. When considering the view of law enforcement, if law enforcement and others responsible for policy believe that looting will be rampant and thus allocate resources to prevent looting, how can it be proven that looting did not occur, not because it is rare, but because resources were allocated to prevent it from occurring in the first place (Tierney, Bevc and Kuligowski, 2006; Nogami, 2015; Nogami, 2018; Lorenz, Schulze and Voss 2017:362).

It is important to note that the belief in disaster myths such as people panicking and looting occurring is also found amongst first responders, the degree of which however appears to differ. The German study by Lorenz et al., (2017) showed that first responders surveyed and interviewed appeared to endorse disasters myths, while acknowledging that panic rarely occurred during disaster events. The first responders often viewed this as being due to the steps taken by first responders to prevent people from panicking (Lorenz et al., 2017:362). Despite rescuers themselves being unable to provide instances of panic, panic was so widely anticipated by first responders surveyed that "it is nonetheless anticipated and even acts as a main guiding

principle for rescue staff's preparations and actions" (Lorenz et al., 2017:362). Conversely, Drury, Novelli and Stott's results differ from Lorenz et al.'s German study. Drury et al.'s study (2013:2263) examined the role of the prevalence of belief in disaster mythology and the instance of panic found that police officers surveyed "neither agreed nor disagreed with the general statement that crowds panic in emergencies." What is noteworthy about Drury et al.'s (2013:2263) United Kingdom-based study is that although police officers neither "agree nor disagree" with the notion of panic, this does not imply that they believe the notion of panic after disasters to be completely false. Both the general public and the police surveyed in Drury et al.'s research all endorsed the notion of civil disorder, or the looting and anti-social myth (Drury et al. 2013:2264). Likewise German first responders and the general public also endorsed the belief that looting was imminent after a disaster (Lorenz et al. 2017:262).

1.4 Research Approach and Methodology

The methodology used to conduct this study consisted of a content analysis, a framing analysis and a discourse analysis. The articles used were found by conducting a Google search of the two news websites using the terms "Harvey" and "Irma". Because hurricanes, unlike other natural disasters, tend to have a lead time, articles examining the coverage of Harvey were sampled from the day that the National Hurricane Center warned that a major hurricane was imminent and sampled for two weeks after the hurricane. Hurricane Irma media coverage sampling commenced on the day Irma was confirmed as a Category 4 hurricane as per The National Hurricane Center (2017 Hurricane Irma: Facts, FAQs, and how to help | World Vision, 2017) and sampling also continued for two weeks after the hurricane hit.

The content analysis examined each article to determine whether or not the disaster myths of paralyzing shock and helplessness, panic, low community morale, looting, ineffective local organisations or anti-social behaviour were being used by CNN and FOX in their online articles. The individual disaster myths were then noted in order to calculate which disaster myths were most commonly used. The analysis also compared the prevalence of the myths based on the news source, and the hurricane sampled. The variable of geography was also used when examining disaster myths in relation to Hurricane Irma and comparisons made regarding coverage of Irma by CNN and FOX.

Framing was also examined by conducting a framing analysis on all articles, irrespective of whether or not disaster myths were present. All articles examined were categorized into political frames, human interest frames, environment frames, economic frames or disaster frames. To ensure richer data, the frames were then subdivided. The framing analysis also considered the prevalence of disaster mythology and deduced which frames were more commonly used when disaster mythology was used.

Finally, a discourse analysis was conducted to ascertain how disaster myths were conveyed through the representation and use of discourse. The discourse analysis attempted to examine articles where disaster mythology was highly evident. Therefore, a line deeming panic in an article was not enough to deem the article adequate for a discourse analysis.

1.5 Overview of Chapters

Following on from this Introduction, this thesis examined the literature around the concept of disaster mythology in Chapter 2: Literature Review & Theoretical Framework. This chapter also reviewed the various research that has occurred over the years in an attempt to uncover why people believe in disaster myths, and why disaster myths are still used by the media. While the term disaster may appear innocuous, it is subject to much debate in the disaster research community. As such, a brief discussion examined the various definitions of disaster. The role of the media in disasters was also discussed, as was the concepts of framing and agenda setting. There was also a review regarding the predictors of news coverage around disasters. The theoretical concepts of agenda-setting and framing were also introduced and discussed in this chapter.

Chapter 3: Methodology clarified how the concepts of content analysis, framing and analysis and discourse analysis were to be used in this thesis. The content analysis was used to examine whether or not disaster myths are present. To guide the content analysis, a codebook was used by the coder, wherein implied or blatant use of myths were coded for. If disaster myths were present, the content analysis was used to categorise the myths into types of myths, what myths were used for what hurricane, and what network used what myth.

The framing analysis examined the frames used by CNN and FOX online when reporting on Hurricanes Harvey and Irma. The framing analysis was conducted by examining the title and

lead of each article. If no frame was apparent, the rest of the article was examined. The results of the framing analysis were then compared to the articles from the content analysis wherein myths were used to establish which frames are used with which myth.

The content analysis informed the discourse analysis, which then analysed articles that used disaster mythology. The discourse analysis examined how disaster myths were used in relation to the hurricane and how the myths were represented.

In Chapter 4: Data Analysis The data analysis used the theory from the methodological chapter to provide analysis of the articles sampled for this study. The data analysis was sub-divided into two sections. The first section focused on Hurricane Harvey and consisted of the results from the content analysis, which indicated which myths were most used when reporting on Harvey and how frequently CNN and FOX online used known disaster myths. The framing analysis examined which frames were used by which network when reporting on Hurricane Harvey. The framing analysis also used the content analysis to establish which frames were used when myths were present. The discourse analysis considered how discourse is used when using disaster myths. The second sub-section focused on Hurricane Irma. The content analysis indicated which myths were used most frequently and by which networks. Because Irma impacted various countries, location was also coded for and examined in relation to disaster myths being used. Irma's discourse analysis examined how Irma was represented by CNN and FOX online and how the use of disaster myths influenced the representation of Irma.

The results and findings from the data analysis was discussed in Chapter 5: Findings & Discussion. Lastly, the findings and discussions investigated the findings made in this thesis and speculated as to why these results occurred. The findings and discussions chapter also discussed the reportage of each hurricane separately. However, the findings and discussion chapter also compared how Hurricanes Harvey and Irma were reported on and if geography influenced the use of disaster myths when reporting on the different hurricanes.

The thesis ended with a short Conclusion in which key findings were highlighted and recommendations for further research were made.

Chapter Two: Literature Review & Theoretical Framework

2.1 Introduction

This study used Fischer's (1998) research on the prevalence of disaster mythology in *Time Magazine*'s reporting as its starting point. While Fischer examined coverage of both manmade and natural disasters over a span of forty years, this study will focus on the coverage of two hurricanes occurring in 2017: Harvey, a Category 4 hurricane which hit Texas and Louisiana, and Irma, a Category 5 hurricane which battered the Caribbean and Florida. The focus for this study is the online news articles published on the CNN and Fox News websites and whether or not the manner of reporting reinforced disaster myths. By understanding the role of disaster mythology in the coverage of these events, this study aims to examine the effects of disaster mythology on the framing and representation of such events in news media. A similar study considering the use of disaster mythology within the context of the media was published in 1986 by Wegner and Friedman. Their study, using a content analysis examined newspaper coverage on disasters. The authors found that the newspapers they analysed did use articles they deemed pro-mythical when reporting on disasters. An important question for this study relates to a question asked by authors Wegner and Friedman (1986:48) "Specifically, how many references to mythical behaviors are necessary for the media to be viewed as disseminating disaster myths?"

Using Quarantelli and Dynes's (1972) seminal paper, "Images of Disaster Behavior: Myths and Consequence", as a starting point, numerous authors, including Tierney, Bevc and Kuligowski, (2006), Garfield (2007), Arnold (2006) and Clarke (2002), have written about disaster mythology in the context of media. Hurricane Katrina in particular generated a substantial response from within academia, with many researchers examining the role of the media, and disaster mythology, in the aftermath of that storm (Tierney et al., 2006; Garfield, 2007; Arnold, 2006). It is also significant that media researchers who are perhaps unfamiliar with the concept or term 'disaster mythology' have at times inadvertently contributed to the debates surrounding the media and disaster mythology. This is evident in Bohensky and Leitch's (2013:475-488) paper "Framing the flood: A media analysis of themes of resilience in the 2011 Brisbane flood", which discusses climate change and governmental response as reported in newspapers during and after the 2011 Brisbane floods. In their paper, Bohensky and Leitch conducted a one-year newspaper analysis, looking specifically at articles related to

the Brisbane floods of 2011. Their findings regarding community behaviour and resilience supports the early claims made by Quarantelli and Dynes (1972), although they do not reference disaster mythology directly.

Jeffery Arnold (2006) discusses the impact of reporting disaster mythology in his paper “Disaster Myths and Hurricane Katrina 2005: Can Public Officials and the Media Learn to Provide Responsible Crisis Communication During Disasters?”. Arnold (2006:1) argues that when emergency responders believe the myths reported by the media it may lead to “actions that waste or maldistribute resources.” Tierney, Bevc, and Kuligowski, (2006:61) argue that rampant lawlessness was a common frame used in the way the media reported on Hurricane Katrina, with the result that people began to believe that “only the military is capable of effective action during disasters.” Furthermore, Tierney, Bevc, and Kuligowski, (2006) argue that white victims were portrayed differently to African American victims in the media.

What is apparent from most articles that discuss disaster mythology and its use in the media, is that government officials often use the media to gather information and that when disaster mythology is used, it influences “the ways government officials responded” (Garfield, 2007:55). Therefore, the study of the use and belief of disaster myths is essential. Tierney et al. (2006:60) argue that “Researchers have long pointed out that the belief in myths concerning disaster behavior is not problematic merely because such beliefs are untrue. Rather, these erroneous ideas are harmful because of their potential for influencing organizational, governmental and public responses during disasters.” Literature regarding disasters and disaster mythology focuses not only on disaster mythology but also on how stories are framed, the representation of those who have been affected by the disasters, and the agenda the media uses when reporting on the disasters all of which is influenced by the broader political economy. This chapter, therefore, seeks to explore key aspects of disaster mythology and its depiction in news media, as well as the role of framing and agenda-setting within the media’s coverage of disasters. This chapter also considers why some disasters are deemed newsworthy and why others are mostly ignored.

2.2 Definition of disaster

A great deal of literature and research has been devoted to finding an appropriate definition of disaster. The importance of finding some sort of consensus is reaffirmed by Perry (2018:3)

who argues that the act of providing an appropriate definition for disasters is important to ensure that social science research on disasters is done in a way that leads to research that is replicable by other social scientists. As with many uses of language, the term disaster has also evolved over the years. What Perry (2018:5) terms the ‘Classical Era’ focused on events and the social impacts created by these events. One of the prominent definitions of disaster from this period was by Wallace whom Perry (2018:6) quotes as stating that, “Wallace (1956, p. 1) characterized disasters as “extreme situations” that involve not just impact, but also the threat of “an interruption of normally effective procedures for reducing certain tensions, together with a dramatic increase in tensions.”.

Despite the term disaster evolving, most definitions agree that the social aspect of disaster, the way in which a disaster disrupts social norms, is important when defining what a disaster is (Perry, 2018:15). The book *What Is A Disaster* edited by Perry and Quarantelli (2006:339) also asserts that “1) disasters are inherently social phenomena, and 2) that the source of disasters is rooted in the social structure or social system”. People tend to assume, albeit wrongly, that in disaster situations all people are equally impacted. What research has found is that people and communities who are impoverished are disproportionately affected after disasters. Disasters can therefore highlight social inequalities (Tierney 2019).

In conducting this research, it has been difficult to find a definitive definition of disaster, and a review of literature indicates, no such absolute definition of disaster exists. However, most definitions of disaster within the umbrella of social sciences emphasize the social disruption that has occurred because of the disaster. In his work, Perry (2018:3) stresses the view that while there may never be one agreed upon definition of the term disaster, the term should be used in a way that fits the requirements of the researcher, in this case disaster is defined using the sociological lens.

When considering the term disaster, some may immediately think of the consequences of disaster. Perry and Quarantelli (2006:343) observed that society in many instances places individuals at greater risk of coming into contact with a hazard agent. Building on flood planes or below sea level makes it more likely that people may be impacted by natural phenomena such as floods and hurricanes among others (Perry and Quarantelli, 2006:343).

Perry and Quarantelli (2006:343) emphasises this:

For instance, floods, earthquakes, and other so-called “natural” disaster agents have social consequences *only* because of the activities of involved communities, before, during and after the impact of a disaster.

Thus, for the purposes of this research project, disaster is defined as per Perry and Quarantelli, (2006:339) as “inherently social phenomena and ... that the source of disasters is rooted in the social structure or social system.”

2.3 Differentiating between Disasters and Catastrophes

The terms ‘disaster’ and ‘catastrophe’ are often used interchangeably, however, for the purpose of this study it is necessary to offer a clear differentiation between the two terms. In this context the definition of disaster is understood from the perspective of the social sciences, with the emphasis on the social aspects. However taking into account the views of emergency management agents such as FEMA (Federal Emergency Management Agency), a disaster is (Guide for All-Hazard Emergency Operations Planning, 1996) "An occurrence that has resulted in property damage, deaths, and/or injuries to a community", The United Nations (Disaster, n.d.) also describes a disaster as "A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts."

In 2008 Quarantelli wrote an article entitled "Conventional Beliefs and Counterintuitive Realities". In this article, he differentiates between what he calls a ‘disaster’ and what he calls a ‘catastrophe’. Quarantelli (2008:874) argues that an event could be a catastrophe when the community impacted by the event is unable to function without outside help and resources and when emergency responders are unable to provide aid or provide only limited aid. Quarantelli (2008:875) also argues that a catastrophe will gain far more news coverage from all over the globe than a disaster, which is arguably better covered by local media (Quarantelli, 2008:874-875). While various theorists differ in their definitions of disaster and entire chapters have been written regarding how to define disasters, what is paramount in almost all definitions of disaster is the disruption of the social norm (Perry, 2006: 4-8). Quarantelli (in Perry, 2006:12) defines

disasters as social events. He states, "It is not the hurricane wind or storm surge that makes the disaster: these are the sources of damage."

2.4 Disaster Myths

Disaster mythology and its use in the media are central to this study. Quarantelli and Dynes's (1972) paper "Images of Disaster Behavior: Myths and Consequence" is still used today as the primary academic reference when discussing disaster mythology. Fundamentally, they argue that people will not become overwhelmed with panic, nor will they run away screaming. Instead, people are inclined to go towards an event that has occurred. People will still be able to act rationally and not be immobilized. The communities themselves are often better equipped to aid in the aftermath, and outsiders often under or overestimate the number of resources needed. Quarantelli and Dynes (1972:3) also argue that deviant social behaviour after disasters is not the norm, but a myth perpetuated by the media.

2.5 Disaster Myths and the role of Availability Cascades

One of the issues that emerges in a review of the academic literature on disaster mythology is the pervasiveness of disaster myths. Various studies by Nogami (2016), Nogami (2018), Nogami (2019), Drury et al. (2009) show that a significant number of people believe there is some truthfulness to aspects of disaster mythology, for example that looters will run rampant, and people will panic. This pervasive notion of disaster mythology can perhaps be corroborated by exploring the concept of what Kuran and Sunstein (1999:683) term availability cascades. Fundamentally it must be noted that "an availability cascade is a self-reinforcing process of collective belief formation..." Due to what is termed availability heuristics, the more exposed one is to certain beliefs, and the more those around you hold those beliefs, the more likely you are to hold those beliefs, or at least not challenge them (Kuran and Sunstein, 1999:706).

Availability cascades can be broken down into informational cascades and reputational cascades. Nogami (2019:371) best explains informational cascades and reputational cascades:

The former occurs when people who do not have complete information on a particular matter rely on the apparent beliefs of others, whereas the latter cascades occurs when

people who try to earn social approval and/or avoid disapproval accept what they consider as the dominant belief regardless of their actual thoughts.

In the case of disasters and disaster mythology, while some first responders may be familiar with literature stating that certain behaviours after a disaster are less likely to occur, availability heuristics will make it less likely for those who do not believe the prevailing belief to disagree with the majority who hold this belief (Kuran and Sunstein, 1999:706). Indeed Kuran et al. (1999:711) argues that “In contexts involving risks, then, both perceptions of a risk and its acceptability are framed socially.” This can also be termed a reputational cascade.

Availability cascades are self-reinforcing and closely linked to reputational cascades which argue that persons, despite not believing the popular opinion, might elect not to challenge the opinion so as to not damage their own reputations (Kuran et al.,1999). To examine the role of availability cascades and the role they play in the pervasive perception thereof, the researcher Sun (2012:79) points out “...that at least some members of the public may be predisposed to believe that violence and looting are common reactions to disasters because of the salience of those manmade risks.” Using the previously defined availability cascades, Sun (2012) uses the concept thereof to better understand why disaster mythology has become so prevalent, both with ordinary people and emergency workers and media personnel.

The concept of a cascade can be understood as a process wherein something is sufficiently passed on. In the instance of disaster mythology, Sun (2012:79-80) argues that the informational cascade and the reputational cascade contribute to the spread of disaster mythology. After a disaster occurs, there is very often a lack of information, and the information that exists may not be accurate. This research by Sun (2012) echoes Kuran et al.’s research (1999), wherein the authors argued that availability cascades were formed through self-reinforcement. Also, when one is worrying about survival, and the lay persons affected those emergency responders responding to the event may not always spend enough time verifying the information that they are receiving. As such, an informational cascade is a belief “based on the beliefs of others” (Sun, 2012:79). If the average person and all those around them believe that looters are going to loot their homes because they have seen signs saying that looters will be shot and heard rumors, they will further perpetuate the mythology around looting.

The other aspect of availability cascades that Sun examined was the reputational cascade. What Sun (2012:79-82) has found is that in some studies conducted by other researchers, emergency managers do not believe that looting will take place. However, because the people they are looking after, believe that looting will take place, these managers must make some attempt to appear to mitigate the risk of looting. Emergency responders interviewed by Nogami (2018:494) were statistically less likely to believe in the myth of looting as opposed to the general public. As such, those who appear to argue against the notion of looting, thereby essentially challenging disaster myths, may have their reputations negatively impacted. Hence, they may privately disagree but must be seen publicly agreeing. Another potentially negative aspect of disaster mythology is that in exaggerating a threat, groups or individuals can advocate for certain policies to be put in place. There may also be the misguided belief that exaggeration may lead to quicker aid rendered by the government (Sun, 2012:83). The media may also reinforce the narratives of disaster mythology in their attempts to secure bigger audiences with sensational images and stories (Sun, 2012:82). The media often reinforces availability cascades around disaster mythology in their efforts to provide reports that they deem newsworthy. In a sense the media creates an alarmist bias around even isolated instances of looting, panic or other anti-social behaviours. Due to the alarmist bias people are more inclined to believe that looting will occur after a disaster (Kuran et al. 1999:713).

To better understand why disaster myths are so prevalent, Nogami (2019:369) conducted a study to examine disaster behaviour through availability cascades. Nogami's research affirms the literature from authors Sun (2012) and Kuran et al. (1999) that because of availability cascades and the reliance on secondhand information, the general public may be more inclined to believe untruths such as disaster mythology (Nogami, 2019:376). Nogami's (2019:376) study illustrates a clear corroborative link that the "reliance on second-hand information increased the degrees of all four disaster myths among participants." Further illustrating the link between availability cascades and disaster myths and the use thereof by the media, Nogami (2019:376) found that "participants who had based their views on disaster behaviour on secondhand information...were found to be more susceptible to disaster myths...". The amount of exposure to secondhand information also led to Nogami (2019:376) theorizing that those persons who had experienced disasters are still more likely to believe in disaster myths if they are exposed to lots of secondhand information.

2.6 Discussion of Quarantelli and Dynes' Disaster Myths:

2.6.1 Panic

Quarantelli and Dynes (1972:2) argue that the first disaster myth is the myth of panic, that "Persons cannot be depended upon to react intelligently and non-selfishly in situations of great danger". Central to an understanding of this myth is the distinction between panicked behaviour and an appropriate "flight from a threatening situation" (Quarantelli and Dynes 1972:11). It is especially important to determine how the news media reports on and defines panic in disaster situations and whether they conflate fleeing with panic. Quarantelli and Dynes's (1972) work on disaster mythology has been used as the foundation by other researchers studying the phenomena of disaster mythology. With regard to the myth of panic, various studies have found that people do not merely abandon their societal roles and norms. Quarantelli and Dynes (1972:11) argue that altruism is far more likely, and that "flight from a threatening situation involves playing traditional social roles including the taking care of others". When faced with a threatening situation, people generally assess the situation and decide on an appropriate course of action, often engaging in altruism as they leave the situation (Quarantelli and Dynes, 1972:13-14). Lee Clarke (2002:21) argues that "Even when people feel 'excessive fear'- a sense of overwhelming doom - they usually avoid 'injurious effort' and 'chaos'". Essentially Clarke (2002), like Quarantelli and Dynes (1972), argues that people are not going to simply forget social norms and ultimately act selfishly when faced with a disaster situation. Instead of fleeing in panic, Clarke (2002:25) argues that people often unintentionally risk their lives and place themselves in danger to help those around them.

Research by Takahashi, Zhand and Chavez (2019) has found that people in disaster situations appear to underestimate the amount of danger they are in. Despite the myth of panic being bandied around by the media and public officials, research has found that it is at times difficult in disaster situations to get people to take the threats seriously. After Hurricane Maria hit Puerto Rico, Takahashi, Zhand and Chavez (2019:113) found that interviewees believed that "...Puerto Rico had been blessed by God and therefore all hurricanes predicted to ravage the island will eventually change direction". Even respondents who worked in the media appeared to believe that despite the imminent danger, Hurricane Maria would not hit them. This was despite these respondents having access to information due to the nature of their jobs.

However, it appears that the use of the term panic has become a vernacular phrase in contemporary culture. The term 'panic' is often used when people express that they felt fear. People also often confuse fleeing from a situation with panic. In a situation where people are fleeing in an orderly fashion, those people are not exhibiting signs of panic. Mawson (2005:102) argues that "Flight can be considered the reverse side of the coin of affiliative behavior, that is, one aspect of a more general response that involves movement away from danger and toward people and places viewed as familiar.". However, Raphael (1986:15) argues that "Panic is above all nonsocial: it takes cognizance of neither the cues nor needs of others and does not weigh options for the self in terms of others." Despite the common slippage between the terms, theorists such as Sime (1980:213), argue that "The concept of panic has to be distinguished from terms such as "anxiety" or "fear," which do not necessarily lead to an impairment of people's ability to cope in a fire."

An interesting finding in studies of panic is that people are more likely to perceive panicked behavior in others rather than in themselves (Nogami, 2016:251-253; Lorenz et al., 2017). Ultimately, people expect other people to panic but do not believe that they themselves will panic. Lorenz et al. (2017:362) found that 62.3% of participants expected the majority of people would panic in the given scenario. Nevertheless, when respondents were asked about how they themselves would respond, "only 6.1% or 11.0% of respondents expected themselves to react with panic" (Lorenz et al., 2017:362). A study conducted by Alexander (2007:100-103) that focused on both university students in Massachusetts and disaster managers and nurses in Italy found that all groups agreed that panic was common after a disaster. Given that these studies all occurred in different geographical locations (Japan, Italy, Germany and the USA), it is interesting to note the similarities in responses despite the cultural differences. A recent study conducted in Budapest, Hungary also found that the belief in panic after a disaster was common among both disaster management students and ordinary students (Papp, 2020:258). Belief in the myth of panic appears so strong that irrespective of cultural differences it appears that respondents, both with training in disaster management and medicine and without specialized training, as well as those who could be termed the lay public, believe that in a disaster situation people would inevitably panic and act irrationally.

Nogami (2018:497) found that the myth of panic was reinforced by the news media, especially amongst civilians who were more likely to believe the myth of panic. After the 2005 London bombing, a study was conducted that focused on how the printed press reported on panic. Drury

et al. (2009:84) argues that despite people reporting crowd panic, the behaviour of people on that day showed that "mutual helping and concern was predominant amongst survivors". One could argue that the myth of panic becomes a self-fulfilling prophecy that is arguably perpetuated by the media. The news media expects people to panic, and will often ask questions such as "did you feel panic?" or "were those around you panicky?" The media also sometimes attributes deaths to panic when in fact these instances are exceedingly rare (Auf der Heide, 2004).

When disasters occur and are reported on in the media, people often mistake appropriate fearfulness for panic. It is a rational and reasonable response for people to flee situations that they deem threatening but media coverage, and often the use of sensationalist terms such as 'panic', can in fact reinforce the myth of panic in disaster situations (Fahy, Proulx and Aiman, 2012:336). This can then obscure the facts of the situation. "Following the Beverly Hills Supper Club fire in the U.S.A. in 1977, The Sun's headline was 'Panic Kills 300,' the Daily Mail had 'Panic and 300 Stampede to Death' and the New York Times spread over several pages." " (Fahy, Proulx, Aiman, 2012:329).

2.6.2 Looting and Anti-Social Behaviour

One of the common myths that emerge after disasters is that of rampant criminality and looting occurring. It appears to have been ingrained in the psyche of not just the public but also the police, other first responders, politicians and the mass media, that after a disaster people will resort to criminal acts and act with a complete disregard for others. Quarantelli and Dynes (1972:2) propose the myth about anti-social behaviour to be as follows:

The social disorganization of the community which is a product of disaster impact provides the conditions for the surfacing of anti-social behaviour. Since social control is weak or absent, deviant behavior emerges and the dazed victims in the disaster area become easy targets for looting and other forms of criminal activity. Crime rates rise and exploitative behaviour spreads as Mr. Hyde takes over from Dr. Jekyll.

Quarantelli (2008:883) does not suggest that looting and other acts of criminality do not occur, but only that it is a rare occurrence, especially in Western societies. As with the panic myth, looting may stop being a myth if specific criteria are met:

when looting did occur, it was socially and overtly condemned by others experiencing the disaster; it was covertly done, undertaken mostly by isolated individuals or pairs, with the objects looted being a matter of chance or opportunity.

Studies such as those by Quarantelli (2008) and Tierney et al. (2006) agree that while looting after a natural disaster is relatively rare, the media has chosen in past coverage of disasters to frequently use the frame of looting and criminality in its coverage of disasters. Research by Quarantelli (2008) and Tierney et al. (2006) suggest that when looting occurs after disasters, the locations in which looting occurred were often already places with high rates of criminality. This however does not mean that the reporting of rampant criminality in the case of Hurricane Katrina as was shown through the media was not grossly exaggerated (Tierney et al. 2006). The media reported on acts of rape, murder and other forms of grotesque violence, with many of these violent acts allegedly having occurred in the Super Dome where those affected were being housed (Tierney et al., 2006:67). A study conducted by Brezina and Kaufman (2008:707) surveyed those who had been impacted by Katrina and found that the overall threat of violence was generally low. Even though the media was reporting on rampant criminality, only 22% of respondents had any threat of violence levelled against them (Brezina and Kaufman, 2008:707). The figure of 22% certainly appears disproportionate with the amount of time devoted by the media to report on the rampant criminality affecting all of New Orleans. Interestingly, it was those respondents who spent time at the Super Dome who were more likely to have experienced threats of violence (Brezina and Kaufman, 2008:715). And Brezina and Kaufman (2008:715) do suggest that domestic violence appears to be more prevalent after disasters, as they recorded a higher percentage of those threatened by violence amongst those who were married or 'living as married'. A study by Berrebi, Karlinksy and Yonah (2020) examined natural disasters that occurred in the United States during the period 2004 – 2015. What they found was that while crime tended to decrease in areas impacted after natural disasters, crime increased in surrounding areas where people were not impacted by the disaster (Berrebi et al., 2020:1555). As such the literature reviewed does not suggest that no criminality or anti-social behaviour will occur, but rather that such behaviour when it occurs, appears to be overreported on by the media.

Researchers Baker and Deham (2019) who spent time on the ground during Hurricane Harvey as citizen responders and researchers (2019:14) "found that despite media accounts of 'you

loot we shoot' there was little evidence of hyper vigilance" in the aftermath of Hurricane Harvey. Instead, the researchers witnessed people acting in prosocial ways and ways that suggested that they were not concerned with losing their belongings. An example is given wherein "residents of flooded homes granted strangers access to the most sensitive areas of their lives." (Baker et al. 2019:13-14). Based on their own personal experiences and interviews with other victims, volunteers and first responders, the authors found that in the aftermath of Hurricane Harvey people were more interested in being of aid to others than they were in protecting their belongings. While rules were broken in the aftermath of Hurricane Harvey, these rules were broken to rescue others or somehow provide aid for others. Instead of witnessing rampant antisocial behavior the authors witnessed pro social behavior. Baker et al. (2019:14) argue that in an attempt by authorities to control the aftermath of the disaster situation resources are diverted from search and rescue to other tasks.

As such, one of the critical problems with the myth of looting, criminality and other forms of antisocial behavior, is that it diverts resources from 'Search and Rescue' operations to the protection of property, especially among first responders who believe in the myth (Quarantelli and Dynes, 1972:5). The other problem with the use of the myth of looting and criminality by the media is that it can lead to stigmatization of those impacted by a disaster, where instead of being seen as victims, they may be viewed in a negative light (Sun, 2012:76). In describing the coverage of Hurricane Katrina, Tierney et al. (2006:70,72) makes use of the warzone metaphor. Tierney et al. (2006) argues that the news media had shifted Hurricane Katrina from a natural disaster, where the victims and survivors needed aid, to an event that needed military intervention. This perpetuated the myth of looting and criminality and diverted aid from those affected, despite the extensive coverage of what was happening in New Orleans.

Lorenz et al. (2017:362) found that belief in the myth of looting and other acts of criminality was most prevalent amongst lay persons, with 42.4% of respondents surveyed expecting that looting would occur. Similar findings amongst university students in Budapest found that the students to some extent believed that looting and antisocial behaviour was to be expected after a disaster. These findings were found in both disaster management students and in students who were part of the control group and not disaster management students. Both disaster management students and the control group were more inclined to believe the myth of looting than they were that of antisocial behavior (Papp, 2020:258). Nogami's (2018:494) research in Japan also showed that most respondents agreed with the notion of looting and crime rates

increasing after a disaster. It would therefore appear that the general public commonly believes the myth of looting and anti-social behaviour taking place after disasters. The reason for the general public believing this myth is not entirely clear. Nogami (2015:304) examined the Japanese belief in the myth of looting and found some correlation between the belief in the myth of looting and property related crimes and the consumption of mass media. He does however argue that the link is marginal at best. His study also indicates some correlation between the expectation of property related crime and age, with the younger respondents in the study being more inclined to believe the myth of property related crime. Finally, the number of hours spent browsing the internet and the amount of crime related news consumed appeared to lead to an increase in the belief of the myth (Nogami, 2015:305).

It is evident that in most cases the general public believes the myth of looting and criminality occurring after a disaster to be true. This belief can be reinforced by the media giving significant airtime to unconfirmed reports of looting and anti-social behaviour. Media coverage that draws on the myth of looting can also perpetuate this belief amongst first responders and policy makers. An American police training textbook states that police “play a key preventative role after a disaster by serving as protectors of property through their presence in business districts: they mitigate looting and other crimes” (Adams and Anderson, 2019:28). First responders interviewed by Lorenz et al., (2017:362) noted that while looting was rare, it was rare because it was prevented “only due to effective law enforcement.” Thus, it appears that despite looting occurring rarely, policy makers and disaster response professionals make substantial efforts to ensure that measures and resources are in place to prevent looting (Lorenz, Schulze and Voss, 2017:362).

An important consideration is also the distinction Sun (2012:45) makes between pro-social looting, i.e., taking necessary supplies, and anti-social looting, i.e., taking of goods not needed for survival. In analyzing media coverage after a disaster, it is important to reflect on whether or not the reports highlight this distinction as this could either reinforce or undermine the myth of looting and anti-social behaviour. As with the myth of panic, one could argue that the media, by giving significant airtime to reports of unconfirmed criminality, does a disservice to those affected by disasters. Media reports that perpetuate the myth of criminality might cause potential victims to delay their evacuation if they believe that their houses will be burgled or looted. It can also lead to a delay in search and rescue services and delays in distributing items needed by those affected. Furthermore, Sun (2012:76) argues that survivors of Hurricane

Katrina were stigmatized by media reports of looting and anti-social behaviour that characterized those in New Orleans as criminal or sympathetic towards criminality. As such anti-social looting is done by criminal opportunists who use the disaster event as a window of opportunity to illicitly obtain goods (Quarantelli, 2008:883).

After the dismal failure of the media in New Orleans, the researcher Paul Stock (2007) has argued that the term *anarchy* because it was used so frequently in the reporting on Katrina ought to be included as another disaster myth, however for the purposes of this study anarchy will not be used as another disaster myth.

2.6.3 Paralyzing Shock and Helplessness

Quarantelli and Dynes (1972:2) describe the common belief that survivors of a natural disaster may experience paralyzing shock and helplessness: "Those who do not act irrationally are often immobilized by major emergencies. Thus, disaster impacts leave large numbers of persons dazed, shocked and unable to cope with the new realities of the situation." However, they go on to demonstrate that "those who experienced disasters are not immobilized by even the most catastrophic of events...disaster victims sometimes insist on acting on their own even contrary to the expressed advice of the public authorities and formal agencies" (Quarantelli and Dynes, 1972:14). Several studies have reinforced their findings, including Lorenz et al. (2017:362) whose respondents agreed that they "would actively help others" in a disaster situation. What literature and news reports have shown time and time again is that far from being passive victims, survivors tend to take matters into their own hands after a disaster. Very often, this can include the role of search and rescue and transporting the injured to hospitals. In their UK study, Drury et al. (2013) note that even police officers agree that survivors are not overcome by shock and passivity after an emergency event. And Auf de Heide (2004:352) argues that "local officials should include provisions in their disaster plans to coordinate search and rescue by survivors". Conversely, it is significant to note that Nogami (2018:494) found that Japanese respondents believed that paralyzing shock is a standard response in disaster situations. However, Nogami's study did not question respondents on whether they would help others. Lorenz et al. (2017:367) found that people believed that they would help other people in an emergency. Papp's (2020:258) study found that students in the field of disaster management, and students that are not studying disaster management are both inclined to believe in the myth of disaster victims and survivors being dazed and apathetic.

Lorenz et al. (2017:362) interviewed German first responders and rescue workers who appeared to show some belief in the helpless victim myth, "... and characterized them as being passive in their behavior ...". As with the panic myth, Lorenz et al. (2017:362) found that civilians were inclined to anticipate helpless and dazed victims when it came to others, while most respondents believed that they would not be shocked and hopeless victims. Interestingly, some rescue workers extolled the notion of helpless victims being common however other rescue workers described it as rarely occurring (Lorenz et al., 2017:362).

One of the problems with rescue workers believing in the notion of passive victims, is that instead of passive victims what often emerges is emergent behavior. Lorenz et al. (2017) found that professional rescuers were unable to recognize the value of volunteers in the aftermath of disaster situations. Lorenz et al. (2017:361) found that "When professional rescue workers allowed unaffiliated responders to proactively and independently complete assignments, they were consistently astounded by the goal oriented and pragmatic work of the unaffiliated responders."

Research on victims after disaster events literature shows that victims are often the ones to render aid before first responders can get on the scene. The behaviour of bystanders after the mass shooting in Las Vegas in 2017 bears testimony to this: After the mass shooting in Las Vegas in 2017, it was reported that a bystander stopped by [a driver's] passenger window requesting they transport some of the injured in their truck bed. "Right now, we need your truck," he said to Lee. "We just need to get people to the hospital." "Go ahead. Put them all in the back," she responded. (News F, 2017)

This notion of victims as first responders becomes further evident when examining research done by Baker and Deham (2019) after Hurricane Harvey. Baker and Deham (2019) found that victims of Harvey were willing to go above and beyond to help others. Baker and Deham (2019) as volunteers and researchers, were able to analyse what they saw in the aftermath of Harvey and corroborate their witness accounts in conjunction with interviews from volunteers and first responders. Reaffirming prior research, Baker and Deham (2019) found that volunteers and survivors were the first to render aid after Hurricane Harvey in many instances. At times, according to the authors, it appeared that instead of dazed and confused victims as

emergency responders may have expected, emergency responders appeared ill-equipped to manage victims who had subsequently become rescuers.

2.6.4 Ineffectiveness of Local Organizations

Another disaster myth is that the local organizations will be unable to act effectively when a disaster strikes due to concerns about their own families and thus will be ineffective in their roles (Quarantelli and Dynes, 1972:5). From a policy perspective, this myth is often used to justify the need for outside agencies to rush to the affected communities. Role conflict may very well occur, as emergency responders will most likely be concerned about the safety of their own families. This will not, however, lead them to abandon their roles as emergency responders (Quarantelli and Dynes, 1972:23). While there have been instances of role abandonment, it is not the norm. Quarantelli (2008:891) contends that the role abandonment by police officers in New Orleans, seen after Hurricane Katrina, may in fact be due to factors relating to the dysfunction of the police department long before Hurricane Katrina. During disaster situations, not catastrophes, Quarantelli and Dynes argue that organisations tend to over-estimate the need for various interventions required by first responders. This then leads to the myth that "organizations will be unable to fulfil their emergency responsibilities" (Quarantelli and Dynes, 1972:22). Instead, Quarantelli and Dynes (1972:23) maintain that while local organizations generally cope well in disaster situations, what can become problematic is the rush of volunteers and "the rather universal inability of organizations to utilize them effectively". The notion of emergency managers being unable to utilize volunteers effectively is echoed in Baker et al.'s (2019:14) work wherein emergency managers had little success when trying to manage volunteers.

2.6.5 Low Community Morale

According to Quarantelli and Dynes' (1972:5) disaster myths, there is a myth that the community might suffer from low morale and that this "can be partly countered by quick visits of important public officials from outside the stricken area." What has been found instead by Quarantelli and Dynes (1972:29-31) is an increased feeling of togetherness and comradeship after a disaster has struck a community. Because so many in the community have suffered losses, "suffering in the disaster context is not an isolated experience", thus enhancing the sense of togetherness after a disaster event (Quarantelli and Dynes, 1972:29). It is interesting to note

that in a study of tornado victims, Quarantelli and Dynes (1972:30) found that "3% felt that the disaster was as bad as it could have been....92% of the victims thought they suffered less deprivation than others" and "only 2% felt more deprived than others by personal and/or material losses". This raises the question of who benefits from the publicity when a prominent person visits a disaster area. According to Quarantelli and Dynes, it appears that these visits might not actually fulfil the role of raising morale. It would therefore be interesting to explore both the media coverage of such visits as well as media criticism when a prominent politician does not visit a disaster-stricken community, but this question is outside the scope of this research project.

2.7 Disaster Mythology and the Covid-19 Pandemic

The Covid-19 pandemic, the most significant pandemic of the 21st century, added to the importance of understanding of how people act in disaster situations and how the media misreports this behaviour, with the media often turning to disaster myths. As such, the mistaken belief that fear equates to panic may have wide-ranging consequences for many people, as governments may believe panic to be inevitable. The media's perpetuation of known disaster myths and the casual use of the terms such as 'panic buying' can lead to profound real-world implications.

An article entitled "Mass Panic Disaster Management in Covid-19 Pandemic" published in the *Indonesian Journal of Public Medicine* is unique in that the authors Shatri, Faisal and Putranto (2020:182), in an apparent misunderstanding of the term mass panic, argue that "At this point, governments must prepare to handle mass panic...". Shatri et al. (2020) appear to conflate the notion of panic with that of fear. Fear does not immediately equate to panic, and fear in response to the Covid-19 pandemic could be argued to be a rational and reasonable response (Quarantelli 2008:879). Gantt and Gantt (2012:45) assert that "Fear despite being a powerful motivator, does not necessarily lead to panic behaviours in disaster and emergency situations."

The media frequently used the term 'panic buying' during the initial stages of the Covid-19 pandemic. A study interviewing UK based respondents (Ntontis et al., 2021) found that the term 'panic buying' was linked to the misinterpretation of panic meaning fear; 'panic' was not used to "connote irrationality and loss of control" (Ntonis et al., 2021:9). Interestingly, interviews with respondents confirmed what other studies around panic have also found, when

people think of panic, they are inclined to think that those around them will panic. People seem less likely to believe that they themselves will panic (Ntontis et al., 2021).

During the initial stages of the Covid-19 pandemic people were buying slightly more than what they needed, partially because they perceived others to be doing the same thing (Ntontis et al., 2021). Participants also admitted to being fearful of not having enough supplies because of product shortages. In the case of the 'panic buying', it was argued that the media played a large part in the perception thereof, with the media reports on empty shelves affecting the behaviour of would-be shoppers.

As per Quarantelli (2008), the Covid-19 pandemic could be considered a catastrophe or what Boin, Lodge and Luesink (2020:189) term a "transboundary mega-crisis". Boin, Lodge and Luesink (2020:196), in an initial analysis of Covid responses, argue that panic in the face of Covid-19 was rare, and as such, plans that anticipate pandemics should be formulated in ways that anticipate that most "citizens won't panic that easily".

This lack of panic in the face of the Covid-19 pandemic is further supported by research done by Recchi, Ferragina, Helmeid, Pauly, Safi, Sauger and Schradie (2020). Recchi et al.'s (2020:3) research focusing on the initial lockdown stages in France found that the "majority of people did not panic". Indeed, some groups surveyed reported (Recchi et al., 2020:1) "seeing their general health and sense of subjective well-being in a more positive light than they normally would". These findings by Recchi et al. (2020) support the argument amongst disaster researchers that instead of disasters bringing out the worst in people, disasters tend to bring out the best in people.

In the rare instance where panic does occur, Quarantelli (2008:879) argues that some or all of these criteria tend to be met: "Perception of an immediate great threat to self and or others", the "Belief that escape from the threat is possible" and "A feeling of helplessness in otherwise dealing with the threat and particular others are not seen as being able to help." Perhaps there is some validity in arguing that the Covid-19 pandemic may meet two of the three above mentioned criteria in the "perception of an immediate great threat to self and others" and "feelings of hopelessness in dealing with the threat" (Quarantelli, 2008:879). However, even if these criteria are met in the instance of Covid-19, it does not mean that mass panic is imminent

and that, as per (Shatri et al.,2020:180) "One of the major problems found in this pandemic is mass panic."

Shatri et al. (2020:180) also appear to understand panic in a manner that differs from established disaster literature on the definition of panic, defining *panic* as "Panic typically means loss of behavioural control, rather than selfishness and mental disorder." Authors such as Quarantelli (2008), have established that one of the hallmarks of panic in a disaster situation occurs when people act in ways contrary to normal societal relations. In order to advance their argument that preventing mass panic in the face of Covid-19 is critical, Shatri et al. (2020:179) use the ideas of panic buying and "paranoia about attending community events". By writing an article that essentially fear-mongers, Shatri et al. (2020) have done an immense disservice to the work of established disaster researchers. Unfortunately, their article may reinforce governments and politicians' views to use panic as an excuse to withhold information.

2.8 The Role of the Media Before, During and After a Disaster

This research looks at the role of the media in the perpetuation of disaster myths. It is important to note that the media's role in the reporting of disasters changes depending on the stage of the disaster. Also, given the "live" nature of disasters and audience demands for immediate access to information, the lack of initial information after a disaster event can at times lead to incorrect or false information being distributed.

2.8.1 The Pre-Impact Stage:

A study conducted by Takahashi et al. (2019:8) demonstrates that media houses themselves are often not adequately prepared for a direct hit in the event of a disaster. Many media houses in Puerto Rico did not have contingency plans or were unable to implement plans that were made when Hurricane Maria hit in 2017. Takahashi et al. (2019:8-10) interviewed media workers on their experiences of Hurricane Maria in Puerto Rico, and found that because of previous experiences with hurricanes, the journalists themselves had become complacent. There were also not always protocols in place with regards as to how to cover a disaster, and what would occur should those who work for the media houses become both victim and witnesses and still have to report on the disaster occurring (Takahashi et al., 2019: 8-10). Given the argument that media houses themselves are ill prepared for disaster situations, it should

come as no surprise that research done by Quarantelli (1991) has found that the media does not cover disaster preparedness. A study conducted by Houston, Schraedley, Worley, Reed and Saidi (2019:597) found that when journalists attempted to educate the public regarding disaster preparedness, it was viewed as scaremongering by some of the public. The issue of newsworthiness was also raised by an editor, who felt that the audience found the disaster and the aftermath more interesting and newsworthy than attempts to educate the public on how to prepare for a disaster (Houston et al., 2019: 597).

Quarantelli (1991:8) argues that those who live in areas prone to disasters such as hurricanes and tornadoes may have developed what he terms a "disaster subculture," where the community as a whole will have a greater sense of awareness and knowledge of what to do during a disaster. This disaster sub-culture may lead to those living in those localities having different needs as an audience than those audiences who are infrequently impacted by natural disasters. Based on studies (Perez-Lugo, 2004; Puente, 2013) it would also appear however that there is a difference in how those who live with the frequent threat of natural disasters approach their own preparation and mitigation of risk. Given the importance of preparation for a disaster, one might expect the media to emphasise the notion of disaster preparedness and the importance thereof, especially to those audiences who live in areas that might be prone to hurricanes, earthquakes, tornados, and other forms of natural disasters. However, Perez-Lugo (2004:219) found that her interview respondents placed far more emphasis on their previous experiences when preparing for a hurricane and placed less importance on how the media said they ought to prepare for Hurricane Georges. Perez-Lugo (2004:222-223) states that "during the preparedness phase, audiences look for information on the natural hazard and not about preparedness activities, which are considered by the interviewees to be part of a body of common-sense knowledge". This raises the question of whether disaster preparedness information by the media is useful to these communities. Given that Perez-Lugo conducted her study in Puerto Rico, where hurricanes are frequent, this might have also impacted the respondents view on the effectiveness of the role of media in disaster preparedness, as the subculture of disaster awareness might have already been ingrained in the respondents.

The media is certainly able to play a beneficial role prior to natural disasters such as hurricanes where the warning time may be substantial. Greenberg and Scanlon (2016:14) have found that with an approaching threat, people actively seek out "confirmation... and the first source they turn to is a media outlet." When looking at what can be termed the pre-impact phase or

preparedness phase, all the respondents “first knew about the proximity of Hurricane Georges through the media...[and] most of the interviewees left their preferred medium ... on until it was physically impossible to keep watching, listening or ‘surfing’” (Perez-Lugo, 2004:217). Perez-Lugo (2004:218) found that respondents, given the subculture of disaster preparedness, were more concerned with getting information such as the "physical location, or the coordinates, of the hurricane”. Again, this confirms the argument of Quarantelli (1991:9), which states that when a disaster situation is imminent people will seek out information that will allow them to mitigate their risks and make decisions. However, Quarantelli (1991:7) also found, that "it is very difficult to get individuals/households to be self-interested, much less concerned about disasters before they happen." Auf Der Heide (2004:348) has found that the more specific the warning, the higher the effectiveness. He states that "effective warnings are those that state, *in terms clear to the recipient*, the urgency of the situation, likelihood of impact, and exact localities at risk" (Auf Der Heide, 2004:348).

A content analysis of major newspapers conducted after Hurricane Katrina found that the media focused on the aspect of preparation *post* hurricane Katrina (ref). This seems to indicate that the notion of preparedness is not high on the media agenda in the pre-impact stage. So, while the media can be beneficial to those seeking information about disasters that are easier to predict, emphasizing preparation post-event, as the media appears to do, is not helpful to those affected by the event.

2.8.2 The Impact Stage

When a disaster occurs, the media is often "faced with an initial lack on information about the overall disaster impact" (Quarantelli, 1991:25). The official sources that journalists rely on might not have a clear idea of precisely what has occurred (Quarantelli, 1991:26). This can lead to journalists relying on unofficial sources for information that may not yet be known to the authorities (Puente, Pellergrini and Grassau, 2013:114). It might also take some time before a clear picture is formed of what has occurred (Quarantelli, 1991:26). Chilean Journalists interviewed after the 2010 earthquake in Chile stated that on arrival to the areas impacted, they did not always realize the magnitude of the event that that had taken place (Puente et al., 2013:115). Quarantelli (1991:29) found that because of the initial lack of information available, "there is a tendency to orient the news coverage around what the initial feedback from reporters or others suggests."

Given the digital age we live in and the rise of social media, the media is now able to interact directly with those affected by disasters and to do so in real time. Social media enables journalists to reach out to people in the disaster zone and obtain real time information that may not yet be known by official sources such as emergency responders (Dailey and Starbird, 2014: 465). Cottle (2014:6) observes that "contemporary media and communications also provide unprecedented opportunities for us to not only read and to hear about but also, importantly to *see* disasters, sometimes as they unfold 'live' on screens in front of us." Thus, the digital age enables the audience to have "near real-time images" when a disaster occurs (Cottle, 2014:5). There is, therefore, increased pressure on media organisations to supply their audiences with continually updated information. This ability to obtain information "live" through social media, creates its own set of legal and ethical issues for journalists and media organizations. Houston et al. (2019: 601, 606) contend that after a disaster, messaging is no longer primarily from official sources, and that while social media can be a useful news source, it can also lead to additional work for journalists who need to fact check information before reporting on it. During live disaster events, the gatekeeping process may not be as substantial as it normally is (Quarantelli, 1991:37). Dailey and Starbird (2014:466) demonstrate the need for the journalist to actively refute and correct fake information and rumour, rather than simply omitting it. Puente et al. (2013:115) show that after the 2010 Chilean earthquake, journalists were acutely aware of their responsibility to ensure the factuality of their reportage. In contrast, Tierney et al. (2006:71) show that the media failed to do their due diligence when reporting on unconfirmed rumors after Hurricane Katrina, and this shaped the narrative creating the metaphor of a warzone, rather than a human catastrophe caused by a natural disaster. Moeller (2006:183) agrees that in the case of Hurricane Katrina the media got it all wrong, as the initial focus was on the infrastructural damage due to flooding, when the real story was about the people and the humanitarian crisis occurring in New Orleans.

2.8.3 The Post-Impact Stage

Because the news cycle is so rapid, the average lead time for a natural disaster varies according to the type of type of disaster. Tornados tend to have very little lead time, while hurricanes tend to have more lead time. The media also tends to approach news in an orderly manner with "the great majority of accounts about the emergency and immediate post impact actions of responding organizations stresses what they have done and accomplished" (Quarantelli 1987:9) Quarantelli (2002:13) has also found that while media attention and the 24 hour news

cycle may move away from the event, newspapers in particular seem to run more analytical and thought provoking pieces about the event that has occurred. Houston et al. (2012:611) found that “The average time a disaster was covered in the news was 340 days (almost one year), with the shortest time span being 3 days (Arkansas floods) and the longest being 1,920 days (Hurricane Katrina).” While Hurricane Katrina is a statistical anomaly the findings by Houston et al. (2012) are indicative of the fact that the media tends to move to the next big story very rapidly.

2.9 Agenda-Setting and Framing during Disasters

2.9.1 Agenda-Setting

Agenda-setting and framing both happen within the political economy of media. Herman and Chomsky (1988:5) state that media houses are owned by very wealthy individuals and companies, for example Fox News is owned by Rupert Murdoch and CNN is owned by the Turner Broadcasting System. They contend that:

In sum, the dominant media firms are quite large businesses; they are controlled by very wealthy people or by managers who are subject to sharp constraints by owners and other market-profit-oriented forces; and they are closely interlocked, and have important common interests, with other major corporations, banks and government. (Herman and Chomsky, 1988:14)

McCombs (2004:3) suggests that Walter Lippman's (1922) "Public Opinion: The world outside and the pictures in our heads" is an early formulation of the concept of agenda-setting, despite it not being labelled as such. The agenda-setting theory model looks at the impact and influence of the media on people and how people perceive their reality and what the media agenda tells them is the most important issues to perceive. McCombs and Guo, (2014:251) make the important differentiation that the word agenda in the context of agenda-setting is not stating that the media has an agenda, but rather “...a neutral descriptive term...” for a list of what the media perceives to be the most important to the least important items.

The Chapel Hill study conducted by McCombs and Shaw (1972), focused on the 1968 American Presidential elections and found a strong correlation between what the news media

told audiences were important issues and what the voters involved in the study believed to be important issues (Mc Combs and Shaw, 1972). It is important to note, that correlation does not however equal causation.

In the initial model for agenda-setting, McCombs and Shaw (1972) argued that there were two levels of agenda setting. The media was effectively telling the audience what to think *about* on the first level of agenda-setting, and on the second level of agenda-setting the media was telling people what attributes to think about in relation to the what, i.e. *how* to think about it (Cohen, 1963:13). It is important to note that the agenda setting theory model does not subscribe to the disproven notion of the hypodermic needle model, wherein audiences were viewed as essentially passive, taking no agency in terms of information provided to them.

Building on this initial model for agenda-setting, McCombs and others introduced the term Need for Orientation or NFO. It is argued that Need for Orientation can impact the effect of the media upon individuals. McCombs, (2014:112) argues that “relevance is the initial defining condition of need for orientation.” If people believe the subject matter to be irrelevant, they will not actively seek out information regarding the matter. As such an individual with a high need for orientation is more likely to actively seek out further information if the matter has high relevance and their uncertainty level regarding the issue is high (McCombs, 2014:112-113). Individuals who believe the topic to be relevant, but who have lower levels of uncertainty regarding the topic are thus also less likely to actively seek out information regarding the topic. McCombs and Guo, (2014:262) argue that uncertainty is not a vital attribute in the NFO, but rather “The key condition determining the impact of the media’s agenda on the public’s agenda is the relevance of the elements on the media’s agenda.”. McCombs, (2014:112) argues that people are more likely to seek out further information if they have a higher uncertainty factor. Matthes, (2008) conducted a study to try and establish causal evidence in relation to agenda setting theory, using both content analysis and a two-wave panel study. Matthes’s (2008:49) study confirmed that “the higher the NFO of an individual is, the more this individual will turn to news media in order to gather information.” Matthes (2008:49) looked at need for orientation and found that “Although the effects are rather small, they can be attributed as causal influence.”

McCombs and Guo, (2014:260) investigated what they termed the third level of Agenda-Setting: The Network Agenda-Setting model. In line with psychological studies, they found

that people were not always inclined to list attributes in a list format, but rather that these attributes tended to create internal connections in people's minds, in which "...it may take a longer period of time to establish the connections between attributes than to build on the salience of a sole attribute.". Evidence of this was further strengthened by a study conducted by Vu, Guo and McCombs, (2014) wherein the authors conducted a longitudinal study over a period of 5 years. Vu et al, (2014:677) found that "...the results demonstrated statistically significant associations between the public network agendas and the media network agendas in all five years.".

McCombs and others also theorized about what they term Intermedia Agenda. Certain media houses such as the New York Times were seen as leaders in terms of setting the news agenda (Harder, Sevenans and Van Aelst, 2017:277). With the proliferation of online news, researchers have subsequently started to examine the role of the online media and social networks such as Twitter in setting the news agenda. Harder et al. examined the role of online role-players versus traditional news agencies. Harder et al., (2017:287) found that "news web sites start the day by providing a round-up of news stories covered in the newspapers.". Essentially Harder et al., (2014:22) found that the concept of speed was most indicative of the capacity of various forms of media to set the agenda. Online media can post stories much more quickly, but at the same time this does not mean that traditional media are less powerful. An analysis conducted by Vu et al. in 2014, (682) found "...that the media network agendas constructed by online news media had the strongest correlations with those constructed by other media outlets.".

McCombs (2004:5) argues that "the media agenda sets the public agenda.". Agenda-setting does not imply that the audience is passive and simply consumes information without thought as to the implications of the information. Rather, if people use the media as a source to inform themselves of ongoing events, the political economy will dictate that the events that obtain the most frequent press time would also become more prominent in the public agenda. Therefore, media agenda-setting with the aid of political economy sets the public agenda.

The notion as stated above of the media setting the public agenda is warranting increasing research. When examining online media, one would be remiss not to examine the role of social media and Twitter in particular. Using the 2010 Earthquake in Chile, Valenzuela, Puente and Flores, (2017) used the theory of Intermedia Agenda-Setting to examine the relationship between Twitter and television and how this compared when reporting on the earthquake.

Because of the rise of Twitter, Valenzuela et al., (2017:631) found that in contrast to traditional agenda-setting wherein the media sets the public agenda, the use of Twitter enabled a two-way flow of communication between journalists and audiences. Valenzuela et al., (2017:615) also found that Twitter was deemed to have greater influence on the agenda of television news than vice versa.

In the context of agenda-setting, Hurricane Katrina was misrepresented in various ways. Moeller (2006:183) claims that "The story was not the broken levees, but why they were broken. The story was not how many people were left in New Orleans, but who was left in New Orleans." He goes on to state that "crises are not crises: instead, they are a kind of virtual merchandise to be sold to fickle audiences who select what news to consume from an exhaustive menu of choices – from tragic disasters to celebrity breakups" (Moeller, 2006:191). Therefore, profit motives influence agenda-setting by press agencies and news channels, as certain stories are intrinsically more valuable than others (Moeller, 2006:191-192). Agenda-setting does not happen in isolation though. The journalists and media organisations in collaboration with various other stakeholders' such as owners and politicians work to set the news media agenda.

McCombs and Shaw's (1972) findings found a correlation between the news telling people what issues are important and the public agenda (what people perceive to be important). Media houses tend to be for-profit entities (Moeller, 2006:191-192) and to make a profit, media houses in conjunction with their editorial teams have to ensure that the news that they publish appeals to their audience, using this audience as "a kind of virtual merchandise" (Moeller, 2006:191). Articles about disasters may be a particularly appealing form of 'virtual merchandise' satiating the needs of audiences who may well have a high need for information before, during and after a disaster and a high level of uncertainty about a disaster (McCombs, 2014; Matthes 2008). Considering the causal link found by Matthes (2008), disaster mythology within the news agenda is particularly problematic. If people are uncertain about disasters and then seek out information about disasters, the information consumed by people should not reinforce disaster myths. Suppose the media sets the agenda and uses disaster myths to set the agenda. In that case, public opinion might well skew to believing known disaster myths such as panic, looting, etc., to be inevitable. Per Vu et al.'s (2014:677) longitudinal study, the media help create links in people's minds. If disaster myths are used to help set the news agenda, the use of disaster myths may wrongly inform the public opinion of how people act after disasters.

2.9.2 Framing

Any reported news event is framed in a certain way. According to Scheufele and Tewksbury (2007:14) framing is in reference to "how we think about it." *We* refer to the public as consumers of mass media, and *it* refers to the news event that has occurred. The placement of an article in relation to other articles contributes to framing, as does the use of images and captions. Entman (1993:54) argues that framing an article involves "what they omit as well as include". Omitting certain information can encourage a particular line of thought for the public. When the media frames a news event, the event will resonate with different people in different ways. The way that it resonates with a person can be attributed to various factors, and often reflects the person's frame of reference and their views of the world. It can also resonate with a person because of an emotional connection (Price and Tewksbury, 1997: 173-212). Van Gorp (2010:92) states that "all frames have the ability to promote a specific interpretation."

Along with the concept of framing is the notion of schemas. Schemas in the context of framing refer to stores of information that audiences have. Schemas are often socially shared (Scheufele and Scheufele, (2009:117). What frames do via schemas is impose a perspective on an event. Entman (2004:422) argues that "the most inherently powerful frames are those fully congruent with schemas *habitually* used by most members of society.". The use of certain words by journalists will also conjure up certain images and as such emotions by audiences (Entman, 2004). In the instance of disaster mythology, it could be argued that words such as looting, *panic*, and *death* are what Entman (2004:417) identifies as "noticeable, understandable, memorable and emotionally charged".

These news stories that conjure up images and evoke emotions, according to Entman (2004:417), will contain at least two aspects which may involve "defining effects or conditions as problematic, identifying causes, conveying a moral judgment of those involved in frame, endorsing remedies." As such, frames can be defined as either attributive, descriptive or affective. Doane (2016:256) echoes Entman's argument stating that after something terrible happens "catastrophe must be immediately subject to analysis, speculation and explanation." Li (2007:677) in his study relating to 9/11 media coverage found that attribute frames, wherein the media aids the audience in making sense of the 9/11 attacks, tended to be political, criminal or religious frames. The descriptive frame is most prevalent during the impact phase of the disaster, as the media helps the audience makes sense of what has occurred and serves a role

of “informing and relieving uncertainty” (Li, 2007:674). Frames of the attributive nature become more common as the media attempts to make sense of what has occurred. Finally, the affective frame examines the long-term impact of the event (Li, 2007:674). Once there was a clearer understanding of what had occurred, the media was more likely to use affective frames such as economic frames, environmental frames, safety frames and human interest frames.

These frames do not differ greatly to Houston et al.’s (2012:612) analysis of the framing of major US natural disasters, having also coded for coverage frames such as political; economic; environment; human interest; criminal and other. Interestingly, a handbook for journalists learning to cover disasters uses the frames of economics, blame, conflict, prediction, devastation, helplessness and solidarity as the most common frames when reporting on disasters (Thorson, 2012:72-73).

In order to keep the audience interested in the coverage, frames and framing stages are not static but rather dynamic. Chyi and McCombs (2004:22) refer to this as salience, where interest is “increased/built by emphasizing different aspects of an event during its lifetime.” Various studies have found that the media tends to report on disasters as episodic instead of thematic. By framing news in this manner, the root causes of disaster are very often not addressed. Most disaster literature argues that a disaster event can be divided into five stages. Vultee and Wilkins (2012:14) list the stages as: “The warning phase; the impact phase; the immediate post-impact phase; the recovery phase; and the mitigation phase. Using Chyi and McCombs’s (2004:24) notion of time, time was defined as past, present and future. The notion of disaster stages and time affects the framing of news stories about disasters. Li (2007) in his 9/11 study links coverage frames to frame nature.

Some theorists have argued that disaster coverage will get more airtime and be more newsworthy when there is a significant loss of life. Studies however have found that this does not appear to be the only criteria for the amount of coverage a disaster event may receive. Doane (2016:256) argues that “Evidently, the scale which is crucial to catastrophe is that of the quantification of death (or at least not that alone).”. The degree of severity as discussed in section 2.7 finds that the death toll and the economic impact of the natural disaster is consistent with the amount of coverage received (Yeong and Lee, 2017; Yan and Bissell, 2018)

Framing and the way issues are framed had a significant impact on what occurred in New Orleans after Hurricane Katrina hit. Because of the 'looting' frame, Hurricane Katrina became a story not about the plight of the victims, many of whom were poor and unable to evacuate, but rather of reported rampant lawlessness that was occurring. Tierney, Bevc and Kuligowski (2006:72) found that the media emphasised a frame of New Orleans being like a warzone with comparisons to the Iraq War. Ultimately Tierney et al. (2006:73) argue that the media was both a help and a hindrance. The media focused attention on the dismal response of the federal government, but also hindered the response by either framing victims as criminals or "as helpless refugees from the storm, unable to cope and deserving of charity." (Tierney et al., 2006:73). Mutz (2006) argues that people often actively seek out information which serves to confirm their worldviews. This study, therefore, seeks to explore the ways in which Fox News and CNN framed stories about Hurricanes Harvey and Irma. Based on different inter-organizational framing, the story is presented in such a way that the public often feels that their point of view is validated.

2.10 Factors that determine coverage of natural disasters

The simple act of the media reporting or not reporting on an international disaster can impact those already affected in terms of aid received and other types of governmental responses. A consistent indicator of whether an international natural disaster will be covered by USA media, has been found to be what researchers such as Jeong and Lee (2017) and Yan and Bissell (2018) term the degree of severity. This degree of severity consists of the death toll and the economic loss as a consequence of the natural disaster (Jeong and Lee, 2017; Yan and Bissell, 2018).

Yan and Bissell found that (2018:875):

Degree of severity, including both the death tolls and economic loss, was evident as the most significant and the only consistent predictor of the presence, amount, and length of U.S. media's coverage at all three levels except that death toll did not influence the amount of coverage for domestic disasters.

Jeong and Lee (2017:8) focused exclusively on the coverage of international natural disasters as covered by the national newspapers the *New York Times* and *USA Today*, Networks ABC, CBS and NBC and cable networks CNN, Fox News Channel and MSNBC and CNN online for

online news. In contrast Yan and Bissell compared the coverage of both domestic USA disasters and international disasters through examining newspaper reports from *The New York Times*, the *Chicago Tribune* and *The Washington Post*.

When comparing coverage of domestic natural disasters versus that of international disasters, Yan and Bissell (2018:878) found degree of severity to be the single most accurate predictor of coverage. However, while Yan and Bissell (2018:878) found no link between geographic proximity and news coverage, Jeong and Lee (2017:12) found that geographic proximity, and the further away the natural disaster hit country was from the USA geographically to lead to an increase in news coverage. Jeong and Lee divided coverage into weeks and found that in weeks 1 and 2, death i.e., degree of severity, appeared to be the most significant predictor of coverage. Jeong and Lee (2017:10) found that "...each additional thousand deaths was associated with a 4 percent increase in news coverage...". In week 3 Jeong and Lee (2017:12) found that military spending and geographic proximity played some role in predicting further coverage:

Furthermore, geographic proximity became significant in Week 3, but in the opposite direction, indicating that each additional thousand miles between the two countries was associated with a 35.54 percent increase in news coverage.

Week 4 again showed coverage to be more likely when the death toll was significant and the economic losses substantial (Jeong and Lee, 2017:12). As such, while results may differ regarding geographic proximity and its influence on determining coverage, degree of severity has been found to be an accurate and reliable indicator of coverage, both in terms of domestic natural disasters, and when examining international natural disasters (Jeong and Lee, 2017; Yan and Bissell, 2018).

Newsworthiness is an important consideration for this study, because while hurricane Harvey made landfall in Texas, Irma impacted several Caribbean islands before impacting the USA. Considering that coverage of natural disasters can impact aid received, coverage of hurricanes Harvey and Irma would help those impacted receive aid. CNN and FOX may also have different editorial views on the newsworthiness of hurricanes Harvey and Irma, and while degree of severity was found to be a reliable indicator of coverage, (Jeong and Lee, 2017; Yan and Bissell, 2018) this does not mean that the online news articles would accurately reflect this.

2.11 Conclusion

Quarantelli and Dynes's (1972) seminal research on disaster mythology has been used as the basis for other researchers such as Nogami, Tierney et al., and Drury et al. amongst others to investigate how people react to natural disasters. The myths surrounding people's behaviour after disasters can have significant consequences wherein victims may be discriminated against (Tierney et al. 2006). Myths such as panic during a disaster have been proven to be exceedingly rare and often confused with appropriate flight behaviour (Fahy et al., 2012:329. The belief that looting is inevitable can lead to resources being diverted from search and rescue operations. The myth of looting may also lead to the stigmatization of victims (Lorenz et al. 2017). Instead of paralyzing shock and helplessness after a natural disaster, people are far more inclined to towards altruism with victims at times becoming rescuers (Baker and Deham, 2019). With the exception of certain natural disasters which create catastrophic damage, local organisations are generally able to manage the aftermath of natural disasters (Quarantelli, 2008). Quarantelli and Dynes (1972) argue that instead of low community morale, communities may become more united after a natural disaster. The way in which the media reports on natural disasters may depend on a variety of factors including degrees of severity (Jeong and Lee, 2017).

Chapter 3: Methodology

This research aimed to explore the prevalence of disaster mythology discourse(s) in the CNN and Fox News online coverage of Hurricanes Harvey and Irma and examine how Hurricanes Irma and Harvey were framed and represented.

3.1 Newsworthiness of Hurricanes Harvey and Irma

Yan and Bissell (2018:873) in a study examining predictors of coverage of natural disasters found that those with “higher death tolls and higher economic loss stayed on the media agenda much longer than smaller disasters.” Notably Yan and Bissell (2018:873) found that domestic disasters were more likely to be covered by the US media and were on the media agenda for more extended periods of time. The death toll was not a reliable indicator of the amount of coverage a domestic disaster would receive (Yan and Bissell, 2018:875).

Hurricanes Harvey and Irma were chosen as both hurricanes were measured Category 4 hurricanes when they made landfall on the continental USA. Hurricane Harvey was selected due to the economic costs. World Vision cites Harvey as the “second most costly hurricane to hit the US mainland since 1900.”. Harvey made landfall over Texas and caused significant damage, in particular flood damage. Hurricane Irma was selected as Irma made landfall over the continental USA as a Category 4 storm in the Florida Keys. Irma did not just impact the continental USA but also several Caribbean islands before making landfall in the Florida Keys.

Hurricane Harvey was considered a domestic disaster and an economically expensive one. The National Hurricane Center (Blake and Zelinsky, 2018:8) reported Harvey to be “responsible for at least 68 direct deaths.” Hurricane Irma was used for this study to show the difference in reporting on a natural disaster that only affected the domestic USA and a disaster that impacted both US territories and other nations. Hurricane Irma was responsible for “47 direct deaths” (Cangialosi, Latta and Berg, 2018:13). Islands such as Barbuda were left uninhabitable after Hurricane Irma.

The hurricanes sampled were considered because while the impact was disastrous, it was not what Quarantelli (2008) termed “catastrophic”. Catastrophic as it relates to this work, refers to the term catastrophe as measured in the sociological sense. Catastrophe for this project was

measured not merely by its death toll or economic consequences, but rather the breakdown of societal norms. Hurricane Maria was initially considered for this study but after examining Quarantelli's 2008 article differentiating disasters and catastrophes, it was decided that Hurricane Maria would be categorised as being catastrophic. Using Quarantelli's parameters of catastrophe, Maria impacted the islands of Dominica, Saint Croix and Puerto Rico. Because the islands were severely impacted outside aid was essential and emergency responders on the islands were unable to operate or were operating in a reduced manner, this in contrast to smaller disasters where first responders would still be able to operate (Quarantelli, 2008:875). The devastation of Puerto Rico also received immense media attention and high-ranking officials became involved (Quarantelli 2008:875).

3.2 Research Approach

To conduct this research a mixed methods approach was used. Initially a quantitative study was used wherein disaster myths were coded for and the amount of myths noted. This quantitative method was needed to determine the number of disaster myths present in the samples. Articles were also coded for frames found present. Manifest and latent meanings were considered. Manifest meanings could be inferred from the use of quantitative analysis, but qualitative analysis was required to accurately research latent meanings. The framing used when disaster myths were present was considered in conjunction with the content analysis when conducting a discourse analysis. A quantitative analysis would simply provide information as to whether or not disaster myths are present in news articles. A discourse analysis used select articles in which disaster mythology was present to provide richer information as to the way disasters were reported on and disaster mythology was used by both networks. The articles selected for the discourse analysis had to have more than merely a mention of a known disaster myth. The content analysis and the framing analysis were used together with the discourse analysis to examine the representation of hurricanes Harvey and Irma, and the disaster myths used when reporting on the hurricanes.

3.3 Selection of News Sources

CNN Online and FOX News were chosen as online news sources from which to collect data samples. CNN and FOX News websites were selected as both networks have their roots in cable television. CNN and FOX News still have to produce news for their cable television

networks, as such their focus is not just publishing online news articles. Both news networks are privately funded and ultimately intended to be profitable. CNN is publicly traded under Warner Media, and FOX is also publicly traded despite the Murdoch family owing a 39% stake (Market Realist).

Comparing CNN and FOX News websites, the website Alexa estimates that the bulk of CNN's online traffic comes from the USA (68.6%) and ranks CNN as the 31st most popular website in the USA. Online readers, on average, spend 4.11 minutes per day on CNN Online (Alexa.com). FOX News's audience geography is overwhelmingly American, with 86.2% of its traffic from the USA. Consumers of FOX News are inclined to spend more time on the FOX News website, with an average of 5.13 minutes per day.

Notably, CNN and FOX News have certain reputations when it comes to their readers' political ideologies and as such their readers worldviews. While news articles on hurricanes may not illicit the partisan bias that political issues would, the manner of reporting of hurricanes may be inclined towards partisan bias. Given this known partisan bias, the concept of selective exposure was also considered. People are more inclined to visit their favourite news websites and ones that match their world views. From a partisan perspective, scholars such as Gil de Zúñiga, Correa and Valenzuela (2012:609) have found that *"conservative Republicans are more likely to watch FOX News and less likely to watch CNN than liberal Democrats who, in turn, are more likely to watch CNN and less likely to watch FOX News."*

Research by Bolin and Kurtz (2018) has also shown that people are not equally affected by natural disasters, with those less socio-economically advantaged more likely to be more vulnerable to the effects of natural disasters (Bolin and Kurtz, 2018). Additionally, prior research suggests that Western lives matter more to the media in terms of disaster coverage than the lives of non-westerners (Joye, 2009), albeit clear consensus in the literature regarding criteria seems to be differential. The concept of those worthy of news coverage and those who may be deemed unworthy is important for this study. Unlike Hurricane Harvey, Hurricane Irma did not just impact the continental USA. The number of articles that focus on the continental USA versus other countries impacted was measured.

3.4 Sampling of News Articles

Data was collected using the Advanced Google Search function and searching for “Hurricane Harvey” and “Hurricane Irma” on both CNN and Fox News websites. Dates were filtered from 24 August 2017 to 14 September 2017 for Hurricane Harvey and from 4 September 2017 to 28 September 2017 for Hurricane Irma to ensure that pre-impact, impact, and post-impact articles were sampled. 140 Articles were sampled for the quantitative analysis part of this study, of which 95 were from CNN and 45 from Fox News. This research found that CNN published significantly more articles on the topic than Fox News. The CNN reports also tended to be longer than the articles published by Fox News, with CNN inclined to use page breaks and headings to create multiple reports within one online article. As such, it is essential to note that while the GS (General Sample Size) in the tables indicates the sample size in terms of documents, a CNN online news report may have contained up to four different news stories within one document, and these news stories were individually coded, and individual framing analysis was done for each article within the document.

The date of sampling began before the hurricanes made landfall, as hurricanes are unique in the sense that they allow the news media and other agencies to warn those who may be affected well in advanced. Tornados may at times offer a lead time of around 11 minutes. A tornado watch may be issued on days that meteorologists believe tornados may occur but a watch or warning does not mean there is a confirmed tornado approaching. Other natural disasters such as wildfires and earthquakes do not offer any sort of lead time.

The date of sampling for Hurricane Harvey commenced on the 24th of August 2017, as this was when the NHC issued a release stating that Harvey would become a major hurricane. Sampling continued until 14th of September 2017 to ascertain the use of disaster myths in the short-term recovery period. Hurricane Irma media coverage sampling commenced on 04th of September 2017 (the day Irma was confirmed as a Category 4 hurricane as per The National Hurricane Center (World Vision, 2017) and sampling continued until 28th of September 2017. The use of the two weeks is to focus on the short-term phase of the disaster. Wenger and Friedman (1986) used the two-week time period to examine print coverage of disaster myths. Houston et al. (2012) found that on average natural disaster-related news stories appear and disappear within 30 days of a natural disaster.

3.5 Data Analysis

To examine whether or not CNN and FOX online used disaster mythology the use of a quantifiable method i.e., coding and examining the prevalence of disaster mythology was used to answer the research question *What network uses disaster mythology most often?* and *What disaster myths appear most frequently?*

3.5.1 Content Analysis

An initial content analysis using both conceptual and relational analysis was undertaken. Disaster mythology is arguably not a term used in the wider public and as such relational analysis examined the relationships between the news networks and the discourses and coverage of disasters, whereas the conceptual analysis examined the presence of disaster mythology in the reporting of the Hurricanes Irma and Harvey by CNN and FOX News. Concepts by themselves do not have an inherent meaning, instead meaning is established by examining relationships amongst concepts. Strength of the relationship can be described as implied, explicitly stated or emphasized.

Using Quarantelli and Dynes's seminal work on disaster mythology, the content analysis was conducted to examine whether any disaster myths were present and the frequency of the myths. The text articles were coded and in particular certain words from Quarantelli and Dynes' work were used to code and categorise the different elements of myths around disasters. The texts were examined for reported instances of anti-social behaviour, looting, panic, paralyzing shock and helplessness, low community morale and local organizations being ineffective and thus requiring help from outside agencies or volunteers.

I undertook all coding for this research project. In order to effectively code, a codebook was created to guide the content analysis. When examining articles using the codebook, the source (CNN and FOX News Online) was noted, as was the hurricane (Harvey or Irma). The codebook then guided the coder to establish if a myth was present and, if present, what type of myth. The coder was also conversant of the current and seminal literature regarding disaster mythology.

In accordance with established literature and other research projects done on disaster mythology, six disaster myths were identified to be sampled. These myths consisted of: looting,

panic, anti-social behaviour, low community morale, paralyzing shock and helplessness, and ineffective local organisations.

Looting implied the taking of goods without the consent of the other. Panic meant the breakdown of societal norms and values, with self, taking preference over others, as such persons behaving with little regard for others in their attempt to get away from what they may perceive to be a dangerous situation. Anti-social behaviour meant the breakdown of societal norms and values in relation to security and crime. Low community morale meant a reluctance to rebuild, and as such the need for an important person, politician, or otherwise to express solidarity. Paralyzing shock and helplessness meant that those impacted by the hurricanes were unable to look after themselves in the aftermath. Local organisations being ineffective necessitated the need for outside organisations to take control in the aftermath of the hurricane. (Quarantelli and Dynes, 1972 and Quarantelli, 2008).

This table lists the disaster myth and gives a relevant example from the data.

Disaster Myth	Example from Data
Disaster mythology: anti-social behaviour	“As Harvey dumped rain on East Texas and the waters rose, people started to panic, rushing rescue boats and even shooting at them if they didn't stop, said one volunteer rescuer.” (McLaughlin, 2017).
Disaster mythology: local organisations ineffective	“Around 3,000 National Guard and Texas State Guard members were heading toward the affected areas, along with 500 vehicles and 14 aircraft, Texas Gov. Greg Abbott said. More than 400 other rescue personnel who were already in south Texas before the storm began were at work, according to FEMA and the Coast Guard.” (Simon, 2017)
Disaster mythology: looting	“Looting broke out on the island, home to about 72,000 people, and security forces were deployed to deal with the problem, French and Dutch authorities said Friday.” (Smith-Spark and Oppmann, 2017)
Disaster mythology: low community morale	“Carranza said some schools may never be inhabitable again, but it's too early to make that judgment, reports Chron.com” (Harvey fallout: 53 of Houston's schools have 'major' damage, at least 22 will be closed for months, 2017)
Disaster mythology: panic	“Fear. Panic. Heartbreak.” (Levenson, 2017)

Disaster mythology: paralyzing shock and helplessness	No examples, instead plenty of examples of communities coming together during their time of need.
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Table 3.5.1.1 Disaster myths and examples from data

Using the above criteria of disaster myths, the coder was able to establish whether disaster myths were present and, if present, classified them into their relevant categories. When coding, the coder looked for words and phrases that illustrated the use of disaster myths in the article. The coder examined articles to establish whether disaster mythology was used, both in explicit terms such as ‘panic’ and implicit terms such as a politician being lambasted for not expressing enough solidarity with victims after the disaster event.

The coder looked for words or reports of behaviour that may have implied looting or other anti-social behaviour types; the myth of looting and anti-social behavior was separated as there may be instances of looting where an anti-social behavior occurred; however, anti-social behavior may have occurred without instances of looting. Stories were also examined for the myth of paralysing shock and helplessness. Additionally, articles were reviewed for reports of ineffective local organisations and low community morale.

3.5.2 Framing Analysis

To conduct a framing analysis, two studies (Houston, Pfefferbaum and Rosenholtz (2012) and Li (2007) were used to guide the process. Both studies focused on the framing of media reports right after disasters, with Houston et al. (2012) in particular focusing on framing after natural disasters. The initial process in this research project used coverage frames similar to those used in the 2012 study by Houston et al. (2012:611). These frames were political, economic, environment, human interest, criminal and other. However, it soon became apparent that the data would be far richer when adding more frames. As such, a disaster frame was added and then subdivided into casualty and damage.

Using these studies as guidance to conduct a framing analysis, the title and lead of each story were analysed. If no frame was apparent, the rest of the article was examined. The CNN sample also factored into account that CNN using sub-headlines published many smaller articles on

one webpage. As such, the framing analysis used the sub-headlines to analyse the individual articles found on CNN's web pages.

To examine the political frame, the frame was sub-divided into three frames with the first covering government leaders (leaders of FEMA and the military). The second sub-division considered policies and issues as decided by politicians and those in government, including but not limited to evacuation mandates and disaster relief from congress. This frame also looked at economic measures within the realm of policy, such as disaster relief funds. The final political frame focused on the politicians themselves; for instance, articles about then president of the USA, Donald Trump, often had him as the primary focus within the context of the hurricane. Using established literature to examine the framing, political frames were able to be quickly identified based on the lead.

The economic frame was sub-divided into the overall economic impact, i.e. the mentions of the overall cost to rebuild and business issues, wherein the focus was on businesses that lost money.

The environmental frame was sub-divided into three frames. Environmental impact considered the natural environmental impact, e.g., alligators entering people's homes. The hazard sub-frame considered how the environment had created a hazard for people, and the health sub-frame was cognisant of the increased risk of diseases such as cholera due to a lack of clean water.

The human-interest frame was sub-divided into three, the face of, the feeling elicited and altruistic behaviour. The face-of frame was used when a hurricane survivor spoke about their lived experiences during the storm. The frame was used when the person interviewed was more matter of fact.

Stories that may elicit heightened feelings from the audience were stories that conveyed feelings of rage, empathy or sorrow. If the first words used expressed utter sadness, it was coded as human interest with a feeling frame.

If the article had a victim that spoke about property loss, it was coded as human impact/face-of frame. Altruism was also used under the human interest frame, with stories coded as altruistic when people helped each other.

Finally, a decision was made to include a disaster frame, with the frame being sub-divided into casualty or damage. The casualty frame was used when reports mentioned death or injury in a way that did not elicit any emotion. Damage was used when there was a mention of damage, but the economic cost of the damage was not used in the report.

The frames used were then compared to the disaster myths present to establish which frames were more likely to be used in conjunction with which disaster myths. The framing analysis used percentages that were normalized against each other in order to provide a accurate comparison of the frames used by each network.

3.5.3 Discourse Analysis

This research aimed to understand how the media reported on Hurricanes Harvey and Irma. The research also sought to establish whether disaster mythology was present when reporting on the hurricanes. One of the reasons a discourse analysis was conducted after the content analysis is that “...the presence of concepts may not be sufficient to denote meaning as people can use the exact same words...yet mean very different things.” (Carley, 1993:89). The notion of textual silence is important. Discourse analysis examines the said and the unsaid and speaks also to socio-political meanings that can be inferred. Examples of the discourse analysed are found in Appendix B (Hurricane Harvey, CNN); Appendix C (Hurricane Harvey, FOX News); Appendix D (Hurricane Irma, CNN); and Appendix E (Hurricane Irma, FOX News).

The content analysis was used to inform the approach to the discourse analysis; however the discourse analysis was also cognizant not only of the language used when reporting on disasters, but also the language and discourse used by the media depending on the geographical location. The content analysis was used to determine which articles were suited for discourse analysis, for example The mention of the word panic with not in itself reason to conduct a discourse analysis on an article. The articles examined for discourse analysis needed to provide some context as to who said what, when why and how. Using atlas.ti the codes were linked to the articles. The meant that the researcher could click on the disaster myth code and view quotes

from all the articles linked to the myth. Articles for discourse analysis were then selected while keeping in mind the connotations of the language used in the report. Examples of articles used for discourse analysis can be found on appendices, b,c,d and e.

Much research has been conducted on the use of disaster myths and the belief thereof by the media, civilians, first responders and other governmental agencies. It is important to note and has been categorically stated by researchers such as Quarantelli (2008) Tierney et al. (2006), that the counter argument is not that disaster myths do not occur, rather that looting, paralyzing shock, panic and other disaster myths are highly unlikely to occur after a natural disaster in the USA.

However, research by Tierney et al. (2006) has shown that the pervasive belief and reporting of myths after Hurricane Katrina impacted authorities' response after Hurricane Katrina. A belief that people may panic by first responders and those responsible for disaster management planning may lead to authorities withholding pertinent information. The cataclysmic belief by so many that looting will occur after a natural disaster in the USA may also lead to potential victims being reluctant to evacuate their homes.

3.6 Limitations and Challenges

When conducting the content analysis that focused on Irma, it became apparent that there was a need for a variable that focused on location, as such the articles around Irma were examined once again, and a code used denoting whether or not the article focused on the USA or areas outside the USA (the code used was NON-USA). Because of the variable of geographic location, Irma's results would have been far richer had a critical discourse analysis been used.

Quantitatively the initial decision was made to normalize results using atlas.ti, however upon examination a decision was made to primarily use the actual numbers in relation to the content analysis as this gave a more insightful picture of the research results. However, results for the framing analysis were normalized and used as percentages to enable better comparisons of frames used.

Because of the limited number of myths used when reporting on Harvey, the samples from which to choose articles to conduct a discourse analysis on Harvey were severely limited.

3.7 Conclusion

This research aimed to explore the prevalence of disaster mythology discourse(s) in the CNN and Fox News online coverage of Hurricanes Harvey and Irma and examined how Hurricanes Irma and Harvey were framed and represented. The content analysis and the framing analysis were used together with the discourse analysis to examine the representation of hurricanes Harvey and Irma, and the disaster myths used when reporting on the hurricanes. Disaster mythology is arguably not a term used by the general public and as such relational analysis examined the relationships between the news networks and the discourses and coverage of disasters, whereas the conceptual analysis examined the presence of disaster mythology in the reporting of the Hurricanes Irma and Harvey by CNN and FOX News.

Chapter 4: Data Analysis

The purpose of this study was to determine the prevalence of disaster mythology and frames frequently used in the representation of Hurricanes Harvey and Irma when looking at online news reports by two USA based news networks, CNN and FOX News, using an exploratory research design. A content analysis, a framing analysis and a brief discourse analysis were conducted. The content analysis of both hurricanes Harvey and Irma constituted the quantitative method used. Once the content analysis was used to determine the number of times a myth was used, the qualitative methods of framing analysis and discourse analysis were used.

4.1. Analysis of Coverage of Hurricane Harvey:

4.1.2 Content Analysis:

When examining the number of articles on the news websites, 58 articles were found on the CNN website providing coverage of Harvey. In contrast the Fox News website had far fewer articles, with just 21 articles providing coverage on hurricane Harvey. Upon examination it was ascertained that both appeared reluctant to make use of disaster myths when reporting on Harvey, with CNN using disaster myths nine times, and FOX using disaster myths six times. Because the sample size differed per network and CNN articles on Harvey were far more numerous than those found on the Fox news website, the atlas.ti tool was used to normalize the results. When normalizing the results, it was found that CNN and Fox made equal use of disaster mythology when reporting on hurricane Harvey. In the table below the *gr* stands for overall disaster myths found in the project in relation to both hurricanes Harvey and Irma.

Disaster myths present in the coverage of Hurricane Harvey:

Column1	CNN Harvey Gr=136	FOX Harvey Gr=27	Totals
• Disaster mythology anti-social Gr=12	2	1	3
• Disaster mythology local organisations ineffective Gr=4	1	0	1
• Disaster mythology looting Gr=12	0	1	1
• Disaster mythology low community morale Gr=7	3	2	5
• Disaster mythology panic Gr=7	3	2	5
• Disaster mythology paralyzing shock and helplessness Gr=0	0	0	0
Totals	9	6	15

Table 4.1.– Disaster myths present when reporting on Hurricane Harvey

Using the actual amounts of myths found in the articles sampled, the panic myth and the low community morale myth were the most frequent myths found in online coverage from CNN and FOX.

The myths used are extrapolated below in more detail. The myth and a debunking of the myth has also been provided to contextualize the data.

4.1.2.a The Use of the Panic Myth

The myth of panicked behaviour after disasters centres around the idea that “People when faced with great threat or danger will panic. This takes the form of either wild flight behaviour or hysterical breakdowns”. (Quarantelli and Dynes, 1972:1). One of the fundamental problems with the belief in the panic myth is that as per Lee (2002:21) “Decision makers sometimes withhold information because they belief that panic will ensue.”. However, research has shown that panic rarely occurs and in order for panic to occur other social conditions must be met, Quarantelli (2008:879) emphasises this, stating that “In the sense of wild collective flight behaviour, our conclusion is that it very seldom occurs since it requires the presence of rarely present concurrent social conditions.” Indeed, fear during a disaster event is a normal rational response to danger, panic however is extremely unlikely with Clarke (2002:25) arguing that “the myth of panic endures because it provides an easy explanation for complex things.”.

Contextual use of <i>Panic</i>	CNN Harvey	FOX Harvey
Sub Headline	1	
Quotes from Authorities	1	1
Quotes from Civilians		1
Quotes from Volunteer Rescuers	2	
Panic Preventable	1	

Table 4.2 Contextual use of the panic myth

Analysing results, (see table 4.3) CNN was found to make marginally more use of the panic myth with three articles mentioning panic versus Fox's two articles mentioning panic.

In order to better understand how the myth of panic was used by the news websites, the articles were placed into context. Placing the articles of panic into context, the CNN articles on panic were found to have one sub-headline with a quote from a volunteer rescue group stating that people were panicking. CNN also quoted a person of authority imploring people not to panic. Lastly CNN provided analysis on why the bulk buying (panic buying) of gasoline by citizens was entirely unnecessary. Likewise, FOX quoted a person of authority on the importance of not panicking. FOX's other article on panic was a quote from a civilian. As such a marginal trend can be noted wherein the news websites are somewhat more likely to report on panic in the context of a quote and in particular a quote from a person of authority, be it official authority or unofficial authority such as a volunteer rescue organisation. Arguably the problem with the way in which CNN and Fox used the panic myth when covering Harvey was that by quoting persons of authority, or persons who may appear knowledgeable about disasters (rescuers from the *Cajun Navy*) credit was given to the panic myth.

4.1.2.b The Use of the Low Community Morale Myth

The myth of communities suffering from low morale after disasters means that there is a perception that reassurance is needed; "Since it is believed the morale of community members is low after disaster impact, steps have to be taken to assure victims there is a future for them and their area." (Quarantelli and Dynes, 1972:5). The misguided notion that victims will suffer from low community morale has been found to be untrue with Quarantelli and Dynes (1972:9) instead arguing that "Contrary to the popular image, morale in disaster impacted communities is not destroyed".

Contextual use of Low Community Morale	CNN Harvey	FOX Harvey
Supportive Politicians	3	1
Explicit use of myth		1

Table 4.3 Contextual use of the low community morale myth

Using the actual numbers and not normalized numbers (see table 4.3) CNN's online coverage was found to use the low community morale myth marginally more. The myth of low community morale tended towards implicit use of the myth, as opposed to explicit use of the myth. The myth was counted as present when mention was made of an important person coming to visit or expressing solidarity with victims.

CNN online had three articles focusing on then President Donald Trump, one article announcing his visit to areas impacted, and two articles reporting on his visit and then subsequent visit to those impacted by Harvey. Likewise, FOX online had one article stating that Donald Trump would be visiting those impacted. FOX online also had the clearest explicit use of the low community morale myth; with a person being quoted as saying that some schools may not ever open again.

4.1.2.c The Use of the Looting Myth

The myth of looting after disasters appears to centre around the misguided idea that disasters bring out the worst in people (e.g., looting, rioting). (Jacob, Mawson, Payton and Guignard, 2008:123). However, decades of research has shown looting to be rare after natural disasters, and that when looting does occur it "it was socially and overtly condemned by others experiencing the disaster; it was covertly done, undertaken mostly by isolated individuals or pairs, with the objects looted being a matter of chance or opportunity." (Quarantelli, 2008:883). However despite looting after natural disasters being rare, first responders believe it to be rare only due to "effective law enforcement" (Lorenz et al., 2018:362).

Contextual use of Looting	CNN Harvey	FOX Harvey
Debunking claims		1

Table 4.4 Contextual use of the looting myth

Examining the actual figures, FOX was more inclined than CNN to use the looting myth albeit the presence of the looting myth was marginal, with FOX using the looting myth once, and

CNN not using the looting myth at all when reporting on Harvey. However, the context of FOX's article regarding looting is important. In this particular article FOX was debunking a quote from a volunteer rescue unit that looters were firing guns, this debunking was based on a quote from authorities stating the reports to be untrue. Based on this debunking, neither network used overt or covert reports on looting in their coverage of hurricane Harvey.

4.1.2.d The Use of the Anti-Social Myth

The myth of anti-social behaviour, like the looting myth centres around the idea that people will abandon all societal norms and rampant criminality after disasters will become common. The belief in the anti-social behaviour myth, may lead to what Quarantelli and Dynes (1972:5) argues as a greater focus on preventing anti-social behaviour; "The presumed surfacing of anti-social behaviour in disaster necessitates particular attention to security matters.". For the above reasons the belief in the anti-social myth is particularly problematic, as it may mean that resources are diverted from search and rescue to preventive security. However, like the looting myth, the anti-social myth has been found to be untrue, with Quarantelli (2008:885) stating that: "...we should note that after the immediate emergency time period, in the days that follow, American police statistics usually indicate that there is an actual decrease in reported criminal behaviour such as murder and theft".

Contextual use of anti-social behaviour	CNN Harvey	FOX Harvey
Debunking claims		1
Witness reports	2	

Table 4.5 Contextual use of the anti-social behaviour myth

Using both the normalized numbers and actual numbers, CNN online was still more inclined to use the anti-social myth when reporting on Harvey, with CNN using the myth twice and FOX using the myth once.

Putting the usage into context, CNN's usage centred around quotes from people reporting that others were acting in ways that were anti-social. In contrast, FOX's coverage centred around quotes stating that reports of people acting in an anti-social manner (firing shots) were unfounded.

4.1.2.e The Use of the Local Organisations Being Ineffective Myth

The use of the local organisations being ineffective myth concentrates on the mistaken belief that as per Quarantelli and Dynes (1972:5) “... the effectiveness of key officials in local emergency organizations will be hampered. To make up for this loss, organizations must mobilise several times the number of persons they need in order to get a reasonably adequate number so that the group can function.” However, research has shown that local organisations tend to manage well in emergencies. It is rare that local organisations cannot manage a disaster situation. Indeed, Quarantelli and Dynes (1972:22) argue that “Only in the most exceptional situations are personnel in local organizations affected so that they are unable to cope with the immediate emergency demands.”.

Contextual use of Local Organisations being ineffective	CNN Harvey	FOX Harvey
Help being sent	1	

Table 4.6 Contextual use of Local Organisations being ineffective

CNN online used this myth once, and FOX online did not use this myth. The use of this myth is arguably marginal, as it was used in the context of the National Guard being sent in to help.

4.1.2.f The Use of the Paralyzing Shock and Helplessness Myth

The myth of paralyzing shock and helplessness myths focuses on the mistaken belief that “The initial shock of undergoing the impact of a disaster supposedly makes individuals dazed and unable to function or react to the situation.” (Quarantelli, 2008:886). However, research has found that instead of standing by idly, victims and survivors often perform the first rescues after a disaster. Tierney (2003:35) argues that instead of paralysing shock and helplessness, emergent behaviour after disasters is far more common than “disaster “victims” actually constitute the real first responders in those situations.”. Likewise, Quarantelli (2008:888) argues that because of the disruption of social norms and everyday routines, people impacted by disasters had to quickly adapt; “Improvisation and innovation took place because the everyday traditional routines could not be used or were ineffective in dealing with the problems that had to be addressed.”. However instead of reporting on the actions of victims as first responders after a disaster, Tierney (2003:36) argues that the media places greater emphasis on rescues that are done by official responders.

Neither network used the myth of paralyzing shock and helplessness. While not sampled, it would appear that based on reports from both CNN and FOX online that citizens impacted were far more likely to exhibit emergent behaviour then they were to simply do nothing. Instead, what was far more prevalent than paralyzing shock and helplessness was altruism. While altruism was not sampled for in this content analysis a discussion on the altruism that was so prevalent after Harvey, is present in the framing analysis found below.

4.1.3 Framing Analysis of Hurricane Harvey:

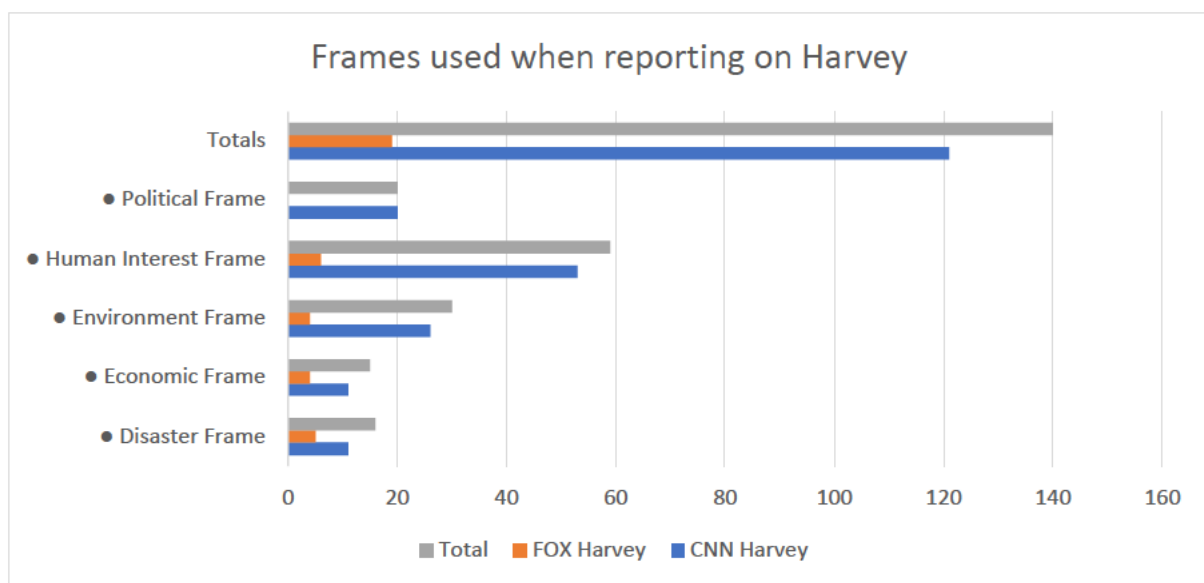


Table 4.7 Frames used when reporting on Harvey

4.1.3.1 Frames Most Prevalent

In order to effectively analyse the frames most present, the decision was made to combine the sub-categories into their overarching frames and adding the percentages together, CNN used the frames of Human Interest, (21.67%), Environment frame (10.84%), Political Frame (8.33%) and the frames of Disaster and Economics equally (4.58%).

Using the same method of adding the sub-categories percentages into their overarching frames, FOX used the Human Interest frame the most (15.79%) this was followed by the Disaster frame (13.16%); the Economic frame and the Environment frame were equally utilised (10.52%). In their coverage of Harvey, FOX made no use of the Political frame.

4.1.3.2 Framing Categories Subdivided

Comparing the three frames used most by the two different news websites, CNN was found to primarily use the frames of Human Interest: Altruism (7.92%), Environment Frame: Hazard (7.50%) and the Human Interest frame of feeling (6.67%)

Both networks utilised the Human Interest frame, albeit CNN used the human interest frame to depict altruism (7.92%) whereas FOX used the Human Interest frame to convey feelings (13.16%).

FOX made use of the Disaster frame of Damage in equal proportion to the Human Interest frame of feeling, with the frame being used in 13.16% of instances. In contrast CNN made less mention of the frame, using the frame 3.75% of the time.

FOX News used more economic frames than CNN when reporting on Harvey, with Business Issues making up 5% of the frame used versus CNN's 2.48% when focusing on business issues concerning Harvey. FOX News is also more inclined than CNN to focus on the economic impact of Hurricane Harvey, with 5.00% of stories using the economic impact frame versus CNN's 2.07% using the economic impact frame

4.1.3.2.a The Human Interest Frame

i) Altruism

When framing stories about Hurricane Harvey, CNN is most likely to use the Human Interest frame focusing on the altruistic frame, with 7.92% of the stories using this frame. Articles with a focus on the altruistic human frame include reports such as volunteers rescuing people, often at great personal risk to themselves (Levenson, 2017). Altruism in the face of Harvey also consisted of citizens using their boats to aid emergency responders in conducting search and rescue operations (McLaughlin, 2017). Altruism took many forms after Harvey, an example of which being stranded bakers, who unable to leave their bakery baked goods for flood victims and evacuees (Andone, 2017).

ii) Feeling

One of FOX's most frequently used frames in covering Harvey was also a Human Interest frame, but FOX was more inclined to use the frame while focusing on the feeling frame (13.16% results normalized). To illicit feelings of sympathy from online audiences, FOX used headlines such as "Residents at epicenter of Harvey's landfall return to heartbreaking devastation" (Residents at epicenter of Harvey's landfall return to heartbreaking devastation, 2017). A particularly powerful article centred around a woman dying, but her daughter surviving. With death and life in one article, the article is able to illicit feelings of sorrow but also of compassion and relief for the daughter that survived. The imagery used is particularly powerful through the use of the word clinging as found in the headline (Texas woman found dead in Harvey floods; young daughter clinging to her is alive, 2017). While CNN did not use the feeling frame as often as FOX, it was used 6.67% of the time.

iii) Face-of/human impact

The Human Interest: the face-of/human impact frame is also prevalent in reports from CNN (7.08%). Examples of this frame used include articles with sub-headlines such as "*The canoeing surgeon*" wherein a surgeon is the centre of the piece as he made his way to a hospital in a canoe to perform emergency surgery (Andone, 2017). Another example introduces the audience to Brandon Cutrer, a "seventh generation cattle rancher" who tried to save his cattle from hurricane Harvey (Edwards, 2017). In contrast, FOX only used the face of frame 2.63% of the time.

4.1.3.2.b Disaster Frame

i) Damage

FOX News, when reporting on Hurricane Harvey, was also more inclined to make use of the Disaster Frame of damage, with 13.16% (results normalised) of articles around Harvey centering around the damage caused by Harvey. Examples of such articles include one with the headline "*Harvey fallout: 53 of Houston's schools have 'major' damage, at least 22 will be closed for months*" (Harvey fallout: 53 of Houston's schools have 'major' damage, at least 22 will be closed for months, 2017). CNN was less inclined to use the damage frame, opting to use it only 3.75% of the time.

4.1.3.2.c Environment Frame

i) Hazard

Both networks exhibited an inclination to use the Environment frame: Hazard when framing articles, with CNN using it 7.44% (and the hazard frame being the second most prevalent frame in CNN coverage of Harvey.) and FOX using it 7.50% of the time. The Environmental frame: Hazard was depicted by CNN using headlines such “*Toxic waste sites flooded*” (Chavez, 2017) and “*Huge Exxon oil refinery damaged by heavy rain from Harvey*” (Egan, 2017). FOX in order to convey the frame used headlines such as “*Harvey to continue to spawn flooding rain, isolated tornadoes in southern US into Friday night*” (Harvey to continue to spawn flooding rain, isolated tornadoes in southern US into Friday night | Fox News, 2017).

4.1.3.2.d Economic Frame

i) Business Issues

Both networks utilised the business issues frame, with FOX utilising the frame more frequently (5.26%) versus CNN’s 2.50% utilisation. One of the articles where Fox made use of the frame was with regards to an oil refinery being shut down. CNN also made use of the frame by also reporting on the oil refinery being forced to shut down.

4.1.3.2.e Political Frame

i) Politicians

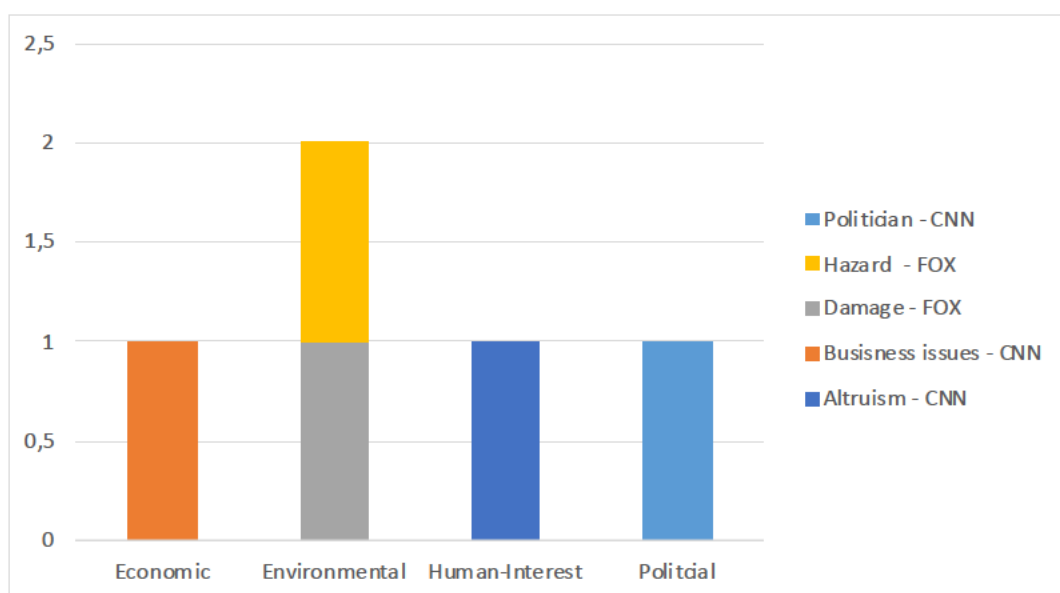
FOX made no use of the political frame. CNN when using the political frame, primarily framed the articles under politicians (3.75%). These included articles about Donald Trump making a donation and visiting the areas impacted by Harvey. An article was also included about the five former living presidents appealing for aid for those impacted by Harvey.

4.1.3.3 Frames Used when Myths are Present

In order to establish which frames were used when myths were present, myths present were compared to frames used when the myth was present.

4.1.3.3.a Panic

The panic myth was used in conjunction with a variety of different frames. Of the five articles that contained the panic myth, two used the environment frame, one article using the hazard frame as further evacuations were discussed and predictions for more rain became imminent. The other environmental frame used was the hazard frame, wherein the headline spoke of ‘catastrophic flooding’. The human-interest frame was used once in relation to panic, in this instance the dominant frame was one of altruism the context thereof that rescue workers believed people were panicking despite the rescue workers best efforts to rescue them. The political frame of politician was used once, with the Mayor of Houston imploring people not to panic. Lastly the economic frame of business issues was used in relation to people perceiving that there may be a shortage of gas after Hurricane Harvey.

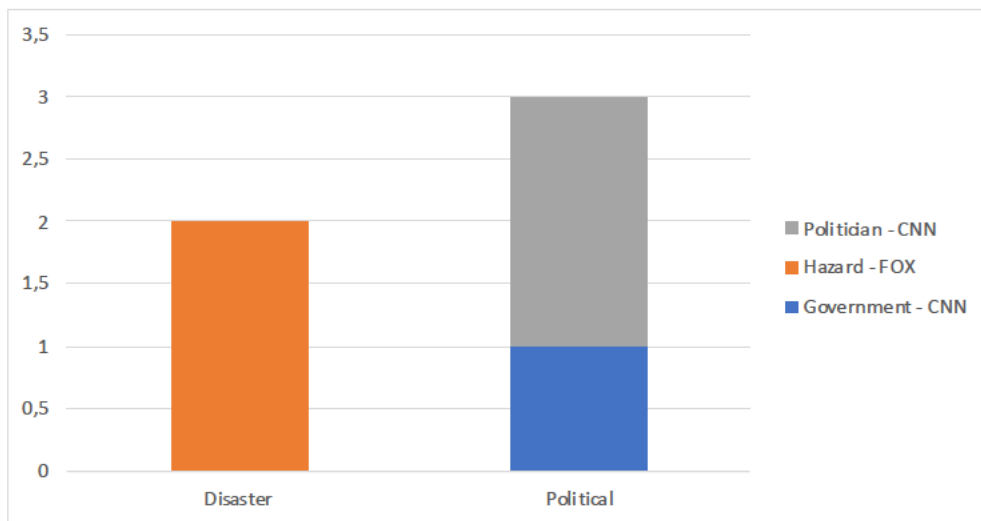


4.8 Panic Myth in Relation to Frames Used

4.1.3.3.b Low Community Morale

The myth of low community morale was primarily used by CNN (3 articles) in conjunction with the political frame. The politician frame was used when reporting on plans by President Donald Trump to visit those impacted. The political frame of government was used when the federal government promised to send help to those impacted by Harvey. The disaster hazard frame was used by FOX in conjunction with an article about the flooding experienced in

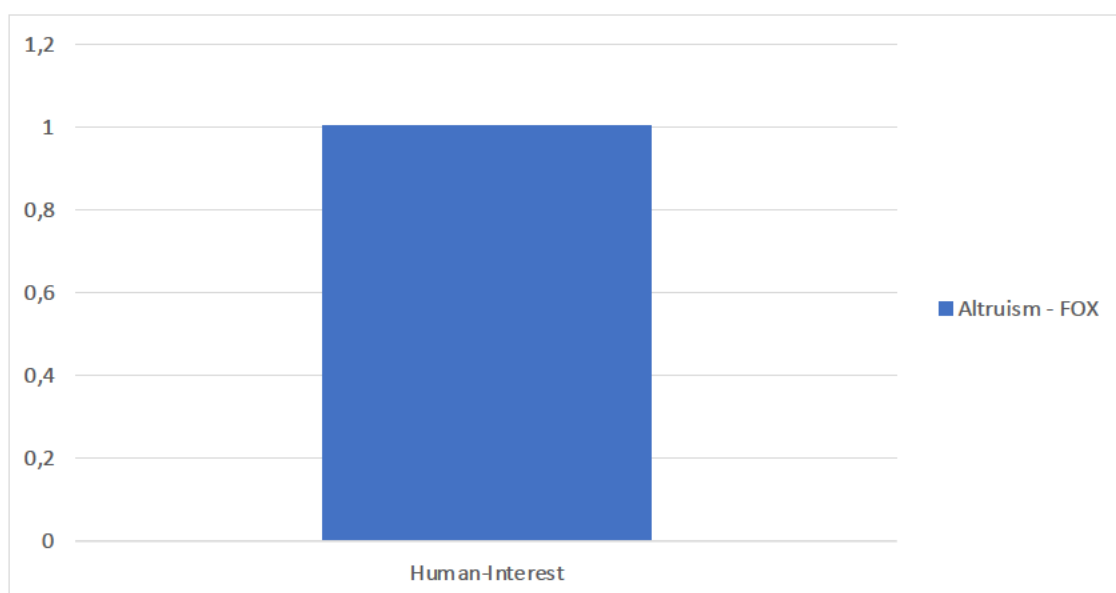
Houston. The disaster damage frame was used in conjunction with an article expressing doubt if some of the schools impacted would ever be able to open again.



4.9 Low Community Morale in Relation to Frames Used

4.1.3.3.c Looting

The myth of looting was minimally used when CNN and FOX reported on Harvey. The one instance of the use of the myth, was in conjunction with a news article wherein police officers denied volunteers claims that people were looting. This article was framed under the human interest: altruism frame.



4.10 Looting in Relation to Frames Used

4.1.3.3.d Local Organisations Ineffective

The myth of local organisations being ineffective was present in a CNN article framed under the political frame: policies. The headline of the article states “National Guard and ‘Cajun Navy’ to the rescue” (Simon, 2017).

4.1.3.3.e Altruism versus the Paralyzing Shock and Helplessness Myth

While no use of the paralysing shock and helplessness myth was found, what was found when conducting a framing analysis that sampled to altruism was overwhelmingly prosocial behaviour in the aftermath to hurricane Harvey. Contradiction of the myth of the helpless victim is found in a CNN article wherein the headline states *Victims become heroes* wherein a shop keeper, in an act of altruism and despite the very real threat to his property from the hurricane opened his shops to house people in need (AJ Willingham, 2017).

4.1.4 Discourse Analysis of Coverage of Hurricane Harvey

The use of the panic myth was evident in a CNN online article titled "*Thousands rescued as Harvey's waters rise*" which uses the panic and anti-social disaster myth. The discourse starts with the phrase "*Harvey dumped rain...*": the use of “dumped” as opposed to pouring rain or rain bucketing down symbolizes what the article says about people panicking and showing little regard for others. The act of dumping is inconsiderate. Starting the article with this phrase adds to the discourse used in the article that people do not care about others and are only motivated by their own needs. Dumped and the act thereof implies a particular hostility towards others.

The article is written based on an interview with a volunteer from the Cajun Navy. The Cajun Navy gained credibility during Hurricane Katrina in New Orleans, where they acted as rescuers for many stranded citizens. As such their name, history and reputation implies that the Cajun Navy is a credible rescue organization and that the volunteer speaking to CNN is a credible and reliable eyewitness.

Despite the Cajun Navy's experience in rescuing, the article is written in language that appears to imply an “us versus them” narrative. It is not a case of them all being in this together, but

instead that people are seemingly ungrateful or acting with disregard to the volunteers who are attempting to aid them. The discourse used in this article centers around the volunteers' experience, with a seemingly negative representation of the victims of Harvey. Indeed, panic, in this instance, is described by a volunteer of the Cajun Navy as people all wanting to get onto boats and rushing boats. The Cajun Navy volunteer uses this behaviour as an example of panic.

The article also makes use of the anti-social behaviour myth. In this instance, the volunteer from the Cajun Navy speaks of people trying to steal a broken-down boat and others being shot at if they do not come to aid those who need to be rescued. Using the word “steal” in a disaster situation is also potentially problematic. How aware were those waiting to be rescued that the boat was broken? The discourse used in the article appears to suggest that social norms have broken down. This CNN article contrasts with a news article on FOX online wherein authorities state no reports of shots being fired (Authorities: No report of shots being fired at 'Cajun Navy').

In conclusion, by only interviewing the volunteer and not the victims, CNN can center the discourse around the seeming breakdown of societal norms. By starting with the word dumped, CNN sets up the discourse of panic and anti-social behaviour from the get-go. Panic seems to be an often-used word when describing behaviours of people during and after Hurricane Harvey. FOX news in an interview with a man called Tom Schuleter reports on Tom's self-reported panic, where he claims he is freaking out.

4.2 Analysis of coverage of Hurricane Irma

4.2.1 Content Analysis

The number of articles found on FOX and CNN online about Hurricane Irma did not differ greatly. Fox Online published 24 online articles on Hurricane Irma, and CNN published 37 articles on Irma. However, the contrast in the use of disaster mythology was particularly evident in CNN's coverage of Hurricane Irma, with 25 reported instances of disaster mythology. In contrast, FOX only used one instance of disaster mythology when reporting on Hurricane Irma. Attempts to normalize the results using atlas ti were made, but it was found that the numbers were skewed in a way that did not reflect the actual use of disaster myths when reporting on Hurricane Irma. To extrapolate on these findings, out of 37 articles published, there were 25 instances of the use of disaster mythology in CNN's online reporting of Irma.

Column1	CNN Irma GS=37	FOX Irma GS=24	Totals
● DISASTER MYTHOLOGY Gr=0	0	0	0
● Disaster mythology: anti-social Gr=12	9	0	9
● Disaster mythology: local organisations ineffective Gr=4	3	0	3
● Disaster mythology: looting Gr=12	10	1	11
● Disaster mythology: low community morale Gr=7	1	0	1
● Disaster mythology: panic Gr=7	2	0	2
● Disaster mythology: paralyzing shock and helplessness Gr=0	0	0	0
Totals	25	1	26

Table 4.11 Disaster myths present in online coverage of Hurricane Irma

The two most common myths used when publishing online news articles about Irma centred around the myths of looting and anti-social behaviour. The looting myth was used once by Fox and used in ten instances by CNN. The myth of anti-social behaviour was used only by CNN and was used nine times when reporting on Irma. The contrast between the looting and anti-social myths and the use of other myths was significant, with the next most frequent myth (local organisations being ineffective) only used three times.

The panic myth was only used twice when reporting on Irma and the low community morale myth was only used once.

4.2.1.a Location as a Variable for Coverage

Analysing the data for Irma, it became apparent that a location-specific variable entitled USA or NON-USA was needed when analysing the results of CNN and FOX News's online reporting when reporting on Hurricane Irma.

		CNN Irma	FOX Irma	Totals
•Location:	NON-USA	24	2	26
•Location:	USA	8	22	30

Table 4.12 Location Variables

With Irma, FOX news coverage was predominately focused on USA territories. Little to no mention is made of the devastation that occurred in the Caribbean islands. Older theories of attempting to determine news coverage might argue that, given the geographical location of the Caribbean Islands to the USA, Hurricane Irma ought to have been reported on by Fox News. Yet newer research has shown proximity not to be a factor when deciding whether or not to report on international disasters, this is in line with the degree of severity as used by Jeong and Lee (2017) and Yan and Bissell (2018) who argue that the higher the death toll and the higher the economic cost, the more likely it is that the media will report on natural disasters, particularly international disasters. The theory of economics also does not appear to have applied, despite the fact that the Caribbean islands is a popular holiday destination for many American citizens.

Ultimately FOX was conducting an act of gatekeeping, deciding that their audiences did not deem the impact of Irma on the Caribbean islands to be important and instead focusing on the domestic impact of Irma on the state of Florida and the Florida Keys. Of the 24 articles mentioned, only two mentioned the devastation in the Caribbean islands. CNN appeared to give equal attention to USA based destruction and the destruction in the Caribbean.

As previously discussed, various researchers have undertaken research to try and establish predictors of news coverage, focusing on USA based domestic news coverage versus disasters occurring outside the USA. A recent study by Yan and Bissell (2018) argues that severity is a more accurate predictor of news coverage than geopolitical relationships. While this argument is undoubtedly valid given the research conducted, Hurricane Irma hit various Caribbean islands as a stage 4 and stage 5 hurricane yet was given no attention from FOX. Given that FOX's primary audience is Americans, a domestic focus is to be expected, but the extent thereof was an unexpected result. This will be discussed in further detail in Chapter 5.

4.2.1.b The Use of the Panic Myth

One of the misconceptions surrounding the idea of panic is that as per Quarantelli and Dynes, (1972:2) "Persons cannot be depended upon to react intelligently and non-selfishly in situations of great personal danger.". However, despite the mistaken belief that people will act selfishly, literature such as Tierney et al., 2006 and Clarke, 2002, has shown that people maintain their social ties with others. Clarke (2002:23) argues that at times these societal rules can lead to people placing themselves in danger to help those around them. Contrary to the belief that people will blindly panic and act in ways that are contrary to normal societal rules, Clarke (2002:24) argues that "Disasters, like other social situations have rules, and people generally follow them.". While panic is exceedingly rare after disaster situations, Gantt and Gantt (2012:44) argue that when panic does occur, it is because there is a perception "that escape routes are closing, then s/he is more likely to panic, whether escape is actually impeded. Additionally, and interestingly, if no hope of escape is possible, such as in a mine collapse or a submarine emergency, panic does not occur.".

Contextual use of <i>Panic</i>	CNN Irma	FOX Irma	USA	Non-USA
Quotes from Civilians	2		1	1

Table 4.13 Contextual use of Panic

The use of the panic myth was found only in articles from CNN online. Two articles used the term panic to describe what may be excessive fear. Using the geographical variables of USA and Non-USA, one instance of panic described a civilian in the USA as describing his wife and children as panicking. Interestingly this perception that others may panic, but they themselves

would not panic was found in Nogami’s 2016 study where respondents indicated that while they may witness others panic, they themselves would not.

The article focusing on Non-USA territories made use of the panic myth in a particularly duplicitous way. The civilian describes herself as almost panicking. However, the article published by CNN appears to misquote her; with the article starting with the words “Fear. Panic. Heartbreak”. While panic was only found twice, the use of it, in particular to the Non-USA territory may reinforce myths that casual readers may have regarding the behaviours of themselves and others.

4.2.1.c The Use of the Low Community Morale Myth

Quarantelli and Dynes (1972:5) argue that the belief in the low community morale myth leads to the belief that community morale can be improved “can be partly countered by quick visits of important public officials from outside the stricken area.” Quarantelli and Dynes (1972:29) argue that suffering after a disaster is not an isolated experience; “Victims, however, are always outnumbered by non-victims. Even in a community with a large number “victims,” their losses do not necessarily have a cumulative effect in lowering morale.”. Disasters may very well create a sort of kinship within the community, with the community having experienced something that others may not fully understand (Quarantelli and Dynes, 1972:29-32).

Contextual use of Low Community Morale	CNN Irma	FOX Irma	USA	Non-USA
Supportive politicians	1		1	

Table 4.14 Contextual use of Low Community Morale

The myth of low community morale was used only once when reporting on Irma and was used by CNN in relation to an upcoming visit that Donald Trump would be making a visit to the residents of Florida impacted by hurricane Irma. The use of the low community morale was implied rather than overt. It would appear that in line with mythology regarding the support of important people after a disaster, there was an expectation that Donald Trump would visit those victims impacted by Irma.

4.2.1.d The Use of the Looting Myth

The myth of looting implies looting happens often. Research by Quarantelli (2008) indicates belief in looting after disasters is a myth. When looting does take place, it occurs because certain conditions that may have encouraged looting existed prior to the disaster, Quarantelli (2008:883) argues that in developing parts of the world, looting may very well occur after a disaster. “But the picture is rather mixed in other kinds of social systems, with looting seemingly occurring more often than not in developing systems (in 2007 there was massive looting in catastrophes in Peru and Columbia). There is also a distinctive pattern to the rare looting that occurs in disasters that is different from what emerges in civil disturbances. There are atypical instances of mass looting that only emerge if a complex set of prior social conditions exist, namely what is seen in a catastrophe rather than just a usual kind of disaster (to the necessary conditions other sufficient conditions are also needed).

Contextual use of Looting	CNN Irma	FOX Irma	USA	Non-USA
Civilians reporting looting	5			4
Authorities reporting looting	4			4
Civilians wanting to prevent looting	1	1	2	1

Table 4.15 Contextual use of the Looting Myth

The content analysis conducted indicates that ten uses of the looting myth were found in reporting by CNN and one instance of the looting myth was found in reporting by FOX. The looting myth was the most predominant myth found when examining reporting on Irma.

The looting that was reported to have occurred on non-USA territories was reported on, both by authorities and witnesses, some having been eyewitnesses to looting and some referring to rumours of looting breaking out. CNN was found to be considerably more likely to use the looting myth in relation to territories outside the USA.

When examining the variables USA and NON-USA for Hurricane Irma, CNN reported looting in nine articles that were focused on geographical areas outside of the USA. At first glance, this result may suggest that CNN is perpetuating the looting myth. However, Quarantelli, in his 2008 article, suggested that while looting is rare but may happen in certain circumstances, these being socio-economic inequalities, high crime rates before the disaster, and an ineffective police force. The devastation of the NON-USA territories must also be considered when

examining the reporting on looting. Most articles that spoke of looting came from sources who were in Anguilla, St. Martin or St. Marten. Irma hit these islands as a category 5 hurricane, arguably creating conditions that may be defined as catastrophic. Prior research by Quarantelli 2008 has shown that certain myths may no longer be myths when catastrophes occur and may instead become realities.

The use of the term looting in the context of the continental USA was found in one article by FOX and one by CNN. The looting myth in the USA seems to centre more around the perceived threat of looting. There were no articles that were centred around the USA that reported that people were looting.

4.2.1.e The Use of the Anti-Social Myth

The anti-social myth centres around the mistaken idea that people will suddenly abandon all societal norms and turn to criminality. The myth also implies a degree of selfishness wherein people are only concerned about themselves (Quarantelli and Dynes, 1972:26-30). As such Quarantelli and Dynes (1972:2) argue that: “The social disorganization of the community which is a product of disaster impact provides the conditions for the surfacing of anti-social behaviour.”

Contextual use of Anti-Social Behaviour	CNN Irma	FOX Irma	USA	Non-USA
Civilians reporting anti-social behaviour	7			7
Authorities reporting anti-social behaviour	1			1

Table 4.16 Contextual use of the Anti-Social Myth

The anti-social myth also seems particularly present in CNN’s non USA based coverage, with eight instances of articles reporting behaviour that may be deemed anti-social. This myth was the second most common myth. The anti-social myth appeared almost as frequently as the looting myth, with the myth appearing eight times in CNN online’s published articles on Irma. No instances of use of the anti-social myth were present in CNN’s online coverage of Irma when focusing on the USA.

Placing the myth into context it would appear that as with the use of the looting myth, the anti-social myth was only used when reporting on territories outside of the USA. Separating the looting and anti-social myths has enabled this research to extrapolate on the aspects of anti-

social behaviour such as eyewitness accounts of people being held at gun point, a prison break on the British Virgin Islands and fears of residents that without proper policing the island of Bermuda may become a haven for drug smugglers. When examining the anti-social myth, it became evident that eyewitness accounts, be it first hand or second-hand information and people's perceptions and fears for their families, made up the bulk of sources. Authorities were only used once as a source when reporting on a prison break in the British Virgin Islands.

4.2.1.f The Use of the Local Organisations Being Ineffective Myth

The myth of local organisations being ineffective suggests that “The supposed preponderance of irrational and disorganized individuals also has its consequences for the ability of local organizations to function effectively during the emergency.” (Quarantelli and Dynes, 1972:5). What research has found is that local organisations tend to cope well with disasters, with there at times being a larger amount of manpower than necessary. Quarantelli and Dynes (1972:22) have found that “Those organizations which have the most immediate relevance to emergency needs, such as police, fire departments, hospitals, etc., have a larger number of personnel available to man their organization than is needed at any one time.”.

Contextual use of Local Organisations Being Ineffective	CNN Irma	FOX Irma	USA	Non-USA
Civilians fleeing abandoned by local organisations	2			2
Governments sending more aid to help local organisations	1			1

Table 4.17 Contextual use of Local Organisations Being Ineffective

Quarantelli argues that the myth that local organisations are ineffective after a disaster and unable to aid those injured or needing help is just that, a myth. Local organisations are often well equipped and familiar with their geographical regions to aid those who need assistance. The belief that local organisations are ineffective after a disaster was rarely used. Use thereof was found only in articles published by CNN, with three articles about local organisations being ineffective when reporting on Hurricane Irma.

Noting these results however, some argument could be made, that while Irma's impact on the mainland USA was fairly minimal, many of the smaller islands experienced loss that may amount to catastrophic loss.

4.2.1.g The Use of the Paralyzing shock and Helplessness myth

The myth of paralysing shock and helplessness creates the mistaken perception that victims cannot help themselves or others after a disaster (Quarantelli and Dynes, 197:2). However, researchers such as Drury et al. (2007), Clarke (2002) and Tierney et al. (2006) have found that instead of being idle after disasters, victims tend to help other victims after disasters, this may include helping with search and rescue and assisting authorities in the aftermath. This myth was not used. Interestingly enough, using the framing analysis and acknowledging that reports of altruism may very well have been overlooked, the altruism sub-frame, albeit minimally used (two articles from FOX and one from CNN) there are reports of altruistic behaviour. FOX focused on the rescuing of stranded manatees in the aftermath of Irma and further demonstrated how those impacted take charge with the article “Florida nun dons habit, grabs chain saw to help after Irma” (Florida nun dons habit, grabs chain saw to help after Irma, 2017). CNN’s use of altruism focused on survivors in communities supporting each other, sharing what little resources they had (Park, 2017).

4.2.2 Framing Analysis of Hurricane Irma:

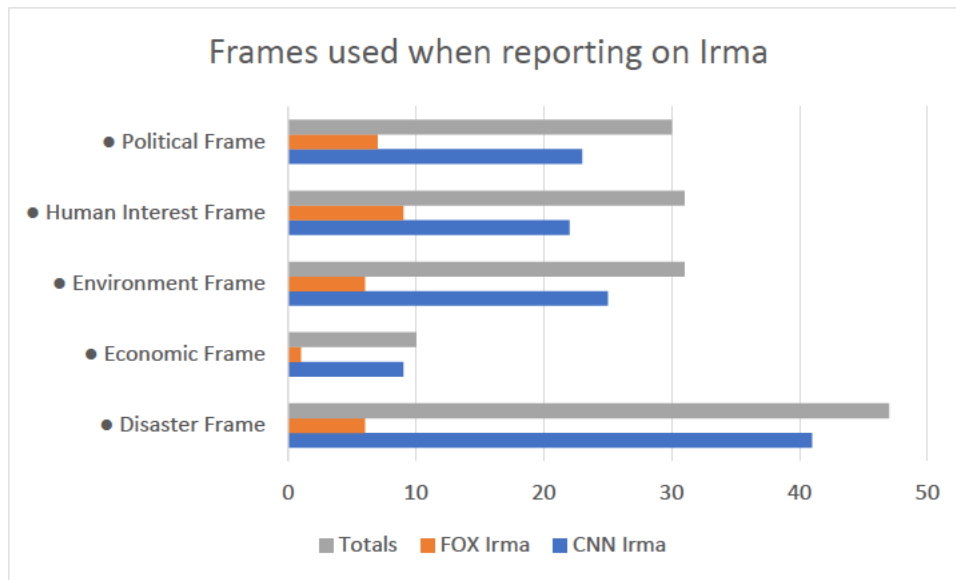


Table 4.18 Frames used when reporting on Hurricane Irma

4.2.2.1 Frames Most Prevalent

Combining the sub-category frames into overarching frames CNN used the disaster frame most frequently, with the frame accounting for 17.08%; CNN also made use of the environment frame (10.42%). The political frame was also used with some frequency (9.38%) as was the human-interest frame (9.17%). The economic frame was the frame least used by CNN in their online coverage of Irma (3.75%).

Replicating the method of combining sub-category frames into overarching frames, when reporting on Irma, FOX was most inclined to use the human interest frame (15.79). FOX also used the disaster frame with some frequency, (13.16%). The political frame was used 12.07%. The environmental frame was used (10.52%) of the time. The economic frame was also the least used frame accounting for a mere 1.72% of coverage.

4.2.2.2 Framing Categories Subdivided

Comparing the three frames used most by the two different news websites, CNN was found to primarily use the frames of disaster frame damage, and the human interest: face-of frame, and the environment:hazard frame. The use of the damage frame was significantly more than any

other frame at 12.50%. The face-of frame was used in 7.92% of articles, and the hazard frame marginally less at 7.50%.

FOX primarily made use of policies and issues sub-frame, the human interest:feeling frame, and the damage:disaster frame. The policies and issues sub-frame was used in 12.07% of articles, the human interest:feeling frame in 8.62% of articles and the damage:disaster frame made up 6.90% of articles.

Comparing CNN and FOX's top three most used sub-categories, it is interesting to note that both networks made use of the human interest frame as their second most used frame, albeit they went about it in different ways, with CNN focusing on the sub-frame that is the face-of frame, whereas FOX focused on the human interest:feeling sub frame. Both networks also made frequent use of the damage:disaster frame, with CNN making more use of the sub-frame than FOX.

4.2.2.2.a The Human Interest Frame

i) Face-of

CNN utilised the face-of frame 7.92% of the time. Examples of CNN using the face-of frame include personal stories of those impacted by Irma. In their face-of frames CNN attempts to make the victims and survivors relatable, often using the occupations or the full names and sometimes brief histories of victims to humanise the victims and survivors. CNN is also inclined to mention the victims and survivors place of residence.

ii) Feeling

FOX was found to have used the feeling sub-frame significantly more than CNN (0,83%). FOX's feeling frames are more likely to illicit feelings of patriotism among its American audience. Examples that feed into this feeling frame include headlines such as "Hurricane Irma: Air National Guard couple gets married in fatigues" (Hurricane Irma: Air National Guard couple gets married in fatigues, 2017) and "Hurricane Irma takes aim at Trump's Mar-a-Lago, social media goes wild" (Hurricane Irma takes aim at Trump's Mar-a-Lago, social media goes wild, 2017). Another example of an article that would appeal to the feeling of patriotism is entitled "Georgia officers rescue fallen American flag from Irma floodwaters" (Georgia officers rescue fallen American flag from Irma floodwaters, 2017).

iii) Altruism

It is worth noting that when focusing on hurricane Irma, neither network made particular use of the altruism frame. With CNN only making use of it once, and FOX twice.

4.2.2.2.b Disaster Frame

i) Damage

Both CNN (12,50%) and FOX (6,90) made use of the damage sub-frame, with CNN using the damage sub-frame as its most often used sub-frame. CNN's primary depiction of the damage sub-frame was focusing on the aftermath of Irma and the devastation left behind. The headline "Hurricane Irma leaves 'nuclear landscape' in Caribbean" (Park, 2017) tries to explain to the audience the extent of the devastation that Irma has left behind. Another headline that also attempts to convey the damage includes "Irma's path of destruction" (Hurricane Irma – CNN, 2017). FOX in its use of the damage frame attempted to further contextualize the damage by using headlines such as "25 percent of Florida Keys homes are gone after Irma, FEMA estimates" (25 percent of Florida Keys homes are gone after Irma, FEMA estimates, 2017) and "Irma's trail of destruction in Florida Keys revealed" (Irma's trail of destruction in Florida Keys revealed, 2017).

4.2.2.2.c Environment Frame

i) Hazard

Both networks used the hazard frame as their primary environment frame, with CNN using it 7.50% of the time and FOX using it 5.17% of the time. CNN primarily used the hazard frame in relation to the meteorological impact Irma was to have or had had on those in her path. Likewise, FOX used the hazard frame to inform residents of the coming hurricane. FOX also used the hazard sub-frame when reporting on people evacuating.

4.2.2.2.d Economic Frame

i) Business Issues and Economic Impact

In their reporting of Irma neither network was particularly inclined to use the economic frame, with CNN using the business issues frame 1.67% of the time and FOX using the business issues

frame 1.72% of the time. CNN focused marginally more on the economic impact (2.08%) of Irma than the business issues whereas FOX did not use the economic impact sub-frame at all.

4.2.2.2.e Political Frame

i) Policies and Issues

Both networks made significant use of the policies and issues sub-frame, with the sub-frame being FOX's most used frame at 12.07%. CNN used the frame in 7.08% of its coverage. When examining how FOX used the frame, the frame was predominately used in articles that focused on evacuations being ordered or states of emergencies being declared. Likewise, CNN's coverage also predominately focused on the need to evacuate, and states of emergencies being declared.

4.2.2.3 Frames Used when Myths are Present

In order to establish which frames were used when myths were present, myths present were compared to frames used when the myth was present. Location was also noted.

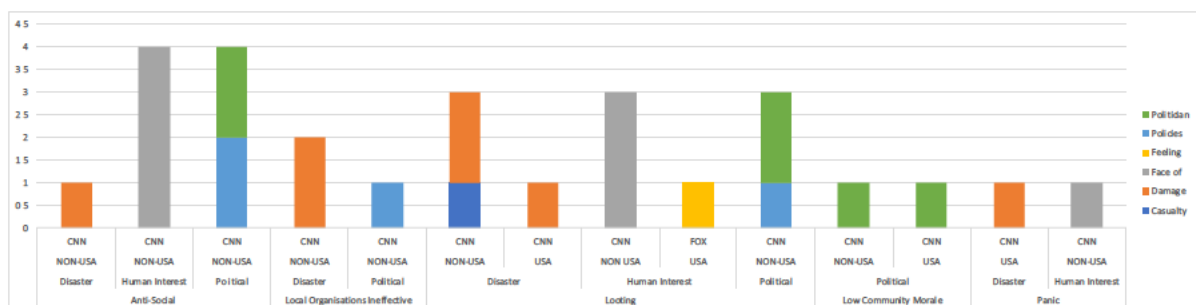


Table 4.19 Frames in Relation to Myths

The myth of panic was reported within the environment and human interest frames, the USA article using the hazard sub-frame and the non-USA article using the face-of sub-frame. The low community morale myth made use of the political frame. Both USA and Non-USA articles also utilised the sub-frame of politician. The looting myth predominately made use of the human interest frame and the disaster frame. The sub-frames differed as CNN used the face-of frame in their non-USA articles, whereas FOX used the feeling sub-frame in their reporting of

USA based events. CNN also used the political frame, using the sub frame of politicians more than policies.

The local organisations being ineffective myth was reported within the disaster and political frames. When using the myth, the sub-frame of damage was utilised more than the sub frame of policies. The myth was only present in coverage that did not focus on the USA. The anti-social myth was also found in non-USA coverage. The frames utilised include the disaster, human-interest and political frames. The sub frames consisted of the damage frame, the face of frame, the politician frame and the policies frame.

4.2.2.3.a Panic

CNN used the panic myth in two instances, once with the damage:disaster frame , wherein a concerned resident was attempting to evacuate. The disaster frame was used while reporting on events occurring in the USA.

The face-of human interest frame was also used when using the panic myth. In this example, a woman outside the USA speaks of almost panicking but CNN utilises panic in the first sentence of the article (Levenson, 2017).

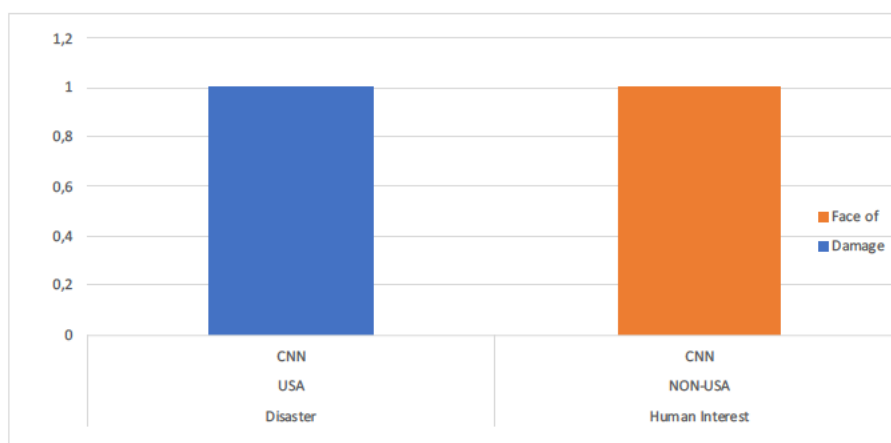


Table 4.20 Panic Myth in Relation to Frames Used

4.2.2.3.b Low Community Morale

Both instances of the low community morale myth being used were under the sub-frame of politician. One instance referred to an event in the USA and one outside the USA. Both instances centred around important politicians visiting those affected.

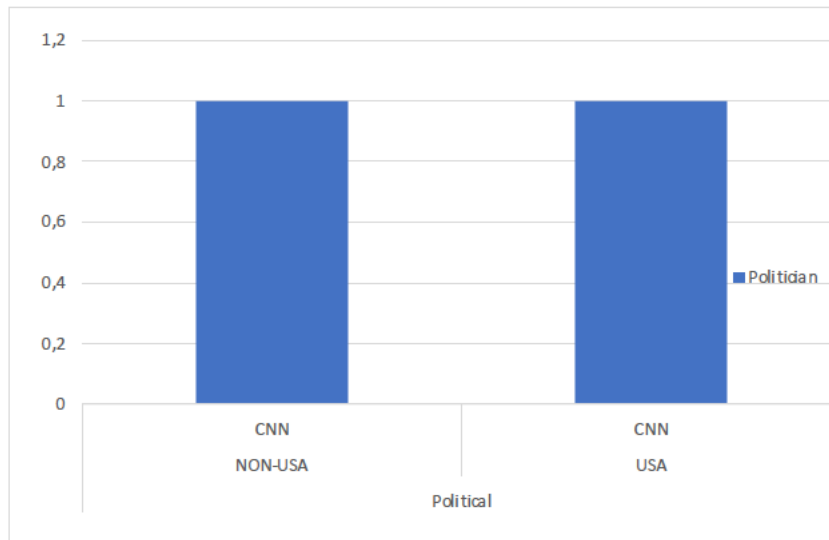


Table 4.21 Low Community Morale Myth in Relation to Frames Used

4.2.2.3.c Looting

The looting myth was used primarily in the disaster and human interest and political frames. Articles focusing on the non-USA in relation to looting were all found on CNN. These articles were found to primarily use the face-of frame in relation to the human interest frame. Usage of this frame was particularly present in articles such as “What Irma felt like: 4 harrowing tales of storm survival” (Levenson, 2017) wherein survivors of Irma recounted what had occurred and spoke of witnessing looting. Other frames used when reporting on looting included the damage:disaster frame which in one instance was used with the article entitled “A week after Irma, Caribbean devastation is laid bare (Mackintosh and Fox, 2017). The political:politician frame was also used in association with the looting myth, with articles focusing on important politicians such as French President Emmanuel Macron visiting those impacted.

Articles focused on the USA that used the looting myth were uncommon. CNN’s sole article about looting in the geographical area of the USA used the disaster:damage frame in conjunction with an article about residents wanting to assess damage and prevent looting

(Karimi, 2017). FOX used the looting myth in relation to the human interest feeling frame rather divisively “Florida looting crackdown is 'white supremacy,' claims author Sarah Jaffe” (Florida looting crackdown is 'white supremacy,' claims author Sarah Jaffe, 2017), perhaps in an attempt to conjure up feelings of anger from their audience.

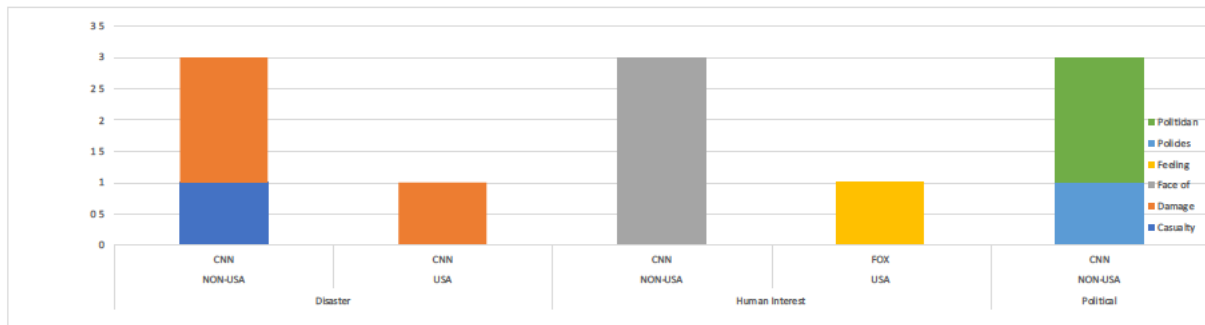


Table 4.22 Looting Myth in Relation to Frames Used

4.2.2.3.d Anti-social

The anti-social myth was not present in any articles that discussed the impact of Irma on the USA. The anti-social myth was however present in articles that focussed on events outside the USA. The anti-social myth was frequently used with the human interest:face-of frame. The anti-social myth was also used with the political frame, making equal use of the sub-frame of politician, the politician frame was used in an article where the French President condemned reports of looting. The policies frame was used in articles that focused on relief efforts for areas affected.

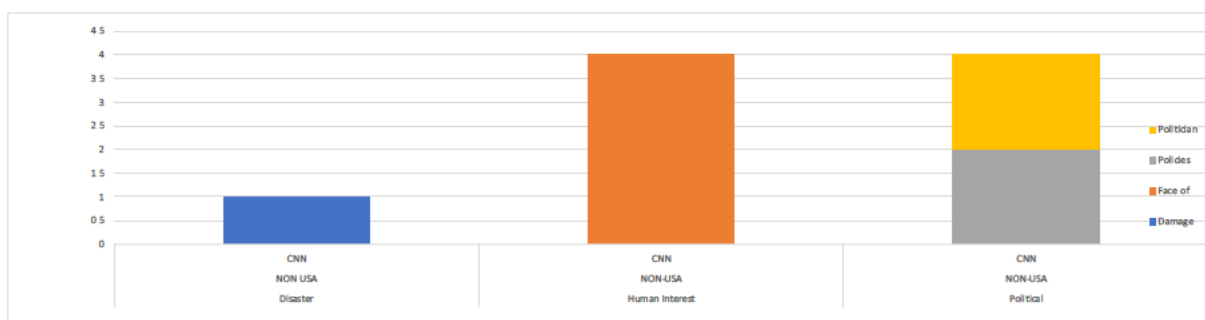


Table 4.23 Anti-social Myth in Relation to Frames Used

4.2.2.3.e Local Organisations Ineffective

The myth of local organisations being ineffective was used with the disaster: damage frame “Hurricane Irma leaves ‘nuclear landscape’ in Caribbean” with a resident expressing doubt as to whether or not the local organisations could cope in the aftermath (Park, 2017). The political: policies frame was used in an article wherein governments promised to send more personnel to areas impacted (Mackintosh and Fox, 2017).

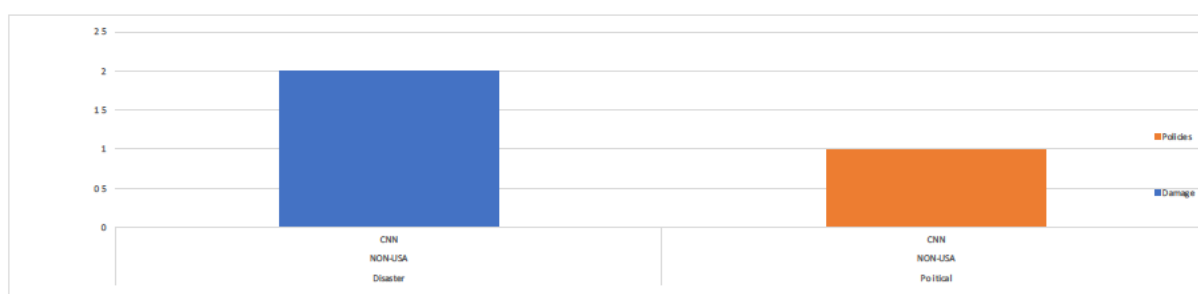


Table 4.25 Local Organisations ineffective Myth in Relation to Frames Used

4.2.3 Discourse Analysis of Coverage of Hurricane Irma

CNN frequently used the looting frame when reporting on Hurricane Irma. CNN’s reporting of looting after Hurricane Irma centers around the islands in the Caribbean that were impacted. Five articles were deemed as suitable to conduct a discourse analysis.

Some of the discourse around looting is primarily driven by politicians and first responders. Politicians refer to looting and advise that they will be providing more security. The discourse used by CNN often uses words such as “blasted and nuclear landscape” to help paint a picture of how intense the destruction is. This term brings to mind an apocalyptic scene.

Furthermore, witness accounts of looting also make use of language akin to the end of the world. Witnesses speak of people robbing others of the little that they have. Yet the discourse in the article by CNN entitled *Hurricane Irma leaves ‘nuclear landscape’ in the Caribbean* is at times contradictory. There is talk of volunteers armed with machetes to fend off looters, but also reports of kindness and generosity from neighbours and others impacted. A voice is given to Frances Bradley-Villier, an expatriate who had moved to St. Maarten three years ago. Bradley-Villier uses language that conjures images of a post-apocalyptic society. Then Bradley-Villier tells CNN that people are being robbed and that the Government patrols are

over run. Bradely-Vilier says two people attempted to break into his house. CNN in the article does note that it has been unable to verify claims of looting, however by choosing to give Bradley-Vilier a voice, CNN reinforces the narrative of rampant looting.

In the same article another voice is given to tourist Kaiaan Macleay and her husband who speak of locals “snatching” things such as necessities but also items such as luxury goods. The verb snatching creates an image of people, having little regard for others’ property, preferring to just steal whatever items they can.

Moreover, CNN again gives voice to the Macleay Family in another article entitled, “*What Irma felt like: 4 Harrowing tales of Storm Survival*”, Lachlan Macleay is referred to as Doctor. By referring to Lachlan Macleay using his professional title, CNN adds credibility to his lived experience. As a tourist, Macleay felt sufficiently threatened to partake in an armed patrol to protect goods. This further reinforces the “us versus them” image so prevalent in the discourse used by CNN when reporting on the impact of Hurricane Irma in the Caribbean.

Furthermore, the CNN article “*A week after Irma, Caribbean devastation is laid bare*” discusses security and looting. The sub-heading is used, Security and then a short, matter of fact sentence stating that “Looting has broken out on some islands.” To add to the credibility of this claim, the witness interviewed is France’s Overseas Minister Annick Girardin. By noting her status as Overseas Minister, credibility is given to her account stating that she “saw people stealing televisions from shops”. The article then continues “other residents have described fights at grocery stores and gas lines.” Fights are far less interesting in this scenario as opposed to people stealing televisions after a hurricane. The silence of the residents, or those who aren’t politicians or those are not expatriates is particularly notable in this article.

The discourse around looting, in particular looting around Irma is contrary to the notable textual silence around looting in US territories, after both Hurricanes Harvey and Irma. Indeed, the discourse used when discussing USA based looting, centers more around the fear of looting occurring. The contrast in discourse when comparing the US impacted regions versus the Caribbean is evident in the lack of reporting on second hand or third hand accounts, which were reported on when looking at the impact of Irma in the Caribbean. Greater credibility is given to second and third hand accounts of looting after Irma hit the Caribbean. By showing a willingness to engage and report on at times questionable and unverified looting accounts when

reporting on the Caribbean, CNN has given credibility to unverified accounts of looting. This is contrary to their American based coverage of looting, wherein the acts of looting (real or imagined) are noticeably not reported.

The idea that people will abandon all societal norms and engage in anti-social behaviour is often reported on by the media after disasters, with the media referring to this behaviour in terms of criminality. CNN interviews Taylor a resident who after Irma, has heard stories of “people being held at gunpoint in their homes.” This information appears more reliable when the witness speaks of knowing someone who was robbed at machete point (albeit not gunpoint).

The discourse around anti-social behaviour is tied to the discourse around looting; in fact, the two tend to appear together in most articles. Most of the discourse around anti-social behaviour centers around the idea that people have abandoned all societal norms. For instance, a CNN article about Irma speaks about someone pulling a gun on someone to get to the front of a line. The discourse around the anti-social behaviour myth also reinforces the us versus them type lens that CNN has created, wherein social norms have broken down.

When considering the discourse used, FOX News appears to take a more USA centric approach, preferring to focus and frame events in a way that would appeal to their demographics. With Alexa ranking 86.2% of FOX’s online traffic as coming from the USA, FOX News appears to be disinclined to focus on issues that do not impact Americans. Evidence of this is seen when FOX reported on Hurricane Irma, where FOX did not focus on the countries affected by the path of the storm, but rather the impact or potential impact the storm would have on the Florida Keys and other mainland parts of the USA. Two articles in FOX’s coverage of Irma focused on the impact of Irma outside of the USA. One of the articles was about the USA providing military aid, and one about a pro-surfer dying in Barbados.

CNN appears to focus on issues both within the United States of America and issues that affect other countries, with CNN reporting in a considerable measure more on the other countries who suffered significantly when Hurricane Irma hit. If one were just to follow the FOX news coverage of Hurricane Irma, one would think that Irma was only a threat to the USA and in particular Florida.

4.3 Summary of Data Analysis

This data analysis established that when reporting on Hurricane Harvey, both CNN and FOX online seldom used disaster myths. When disaster myths were used, these myths centred around the issues of so called panic and low community morale. Importantly the myth of looting was not used by either network.

In contrast however, the reporting of Hurricane Irma by CNN made use of numerous disaster myths, the most prevalent myths were the myth of looting and anti-social behaviour. In contrast FOX used known disaster mythology once, whereas CNN used known disaster mythology 25 times.

Examining location as a variable for coverage, CNN was far more inclined to report on areas outside the USA that were badly affected, whereas FOX was much more inclined to report on areas within the USA, with their articles seemingly centred around the state of Florida.

The frames used when using disaster myths varied, with reports on Hurricane Harvey when using the myth of panic, using primarily the environmental frame. The myth of low community morale was mostly used in conjunction with the political frame. The local organisations being ineffective myth was also mainly used with the political frame.

The frames used when reporting on Irma at times differed based on location. The panic myth when reporting on domestic USA events primarily used the frame of disaster. In contrast the panic myth when used to discuss areas outside the USA primarily made use of the human interest frame. The low community morale myth irrespective of location used the same type of frame, both using the political frame. The looting myth when focusing on countries outside the USA mainly used the human interest frame. In contrast the looting myth when used while reporting on matters inside the USA used the disaster frame. The anti-social myth was only used when reporting on events outside the USA. The anti-social myth was framed using primarily the human interest frame and the political frame.

The discourse analysed when focusing on Harvey centred around the use of the panic myth. The discourse in relation to the panic myth created an image of selfishness after Harvey.

Likewise, the discourse around anti-social behaviour also suggests that normal societal rules are not being followed, and the breakdown of these societal norms is implied in the discourse.

When conducting a discourse analysis around Irma, the discourse around the looting myth was driven by quotes from politicians and first responders. CNN also used apocalyptic type language, using words such as nuclear, with those interviewed using language to suggest it was almost an end of the world type scenario. The use of the anti-social myth was closely linked to the looting myth, with the discourse creating an us versus them type of scenario, wherein normal societal rules no longer existed.

4.4 Conclusion

The online news coverage of hurricane Harvey by CNN and FOX News used relatively few disaster myths. When disaster myths were used with Harvey, these myths tended to be the myths of panic and low community morale. Both CNN and FOX News framed their online articles primarily using the human interest frame. The discourse analysis showed that when disaster myths were used, they were often used when CNN quoted witnesses who may misperceive certain situations, i.e., mistaking appropriate flight behaviour for panic. The online coverage of hurricane Irma showed that CNN was significantly more inclined than FOX News to use disaster myths in their reporting on Irma. CNN predominantly used the myths of looting and anti-social behaviour when reporting on Irma. The networks also differed in the frames used when reporting on Irma, with CNN being more inclined to use the disaster frame, whereas FOX was more inclined to use the human interest frame. The discourse analysis found that CNN used phrases to evoke the idea of post-apocalyptic scenes in the aftermath of Irma.

Chapter 5: Discussion

This study set out to examine whether or not disaster myths such as looting, panic or anti-social behaviour were present and how the myths were represented when CNN's website and FOX Online reported on the 2017 Hurricanes Harvey and Irma. This was done through the use of a content analysis which examined the contextual usage of myths when present. A framing analysis was also conducted to try and ascertain whether CNN and FOX news used the same type of frames for Hurricanes Harvey and Irma. The framing analysis was then combined with the results from the content analysis to establish what frames were used when myths were present. Finally, a discourse analysis was used to further examine the representation of disaster mythology in select articles from CNN online and FOX.

5.1 Discussion of Coverage of Hurricane Harvey

Because Hurricane Harvey made landfall in the states of Texas and Louisiana, all articles sampled focused on the impact of Harvey within the confines of the USA. While the number of articles reporting on Hurricane Harvey was fairly numerous, it was surprising to find through a content analysis that disaster myths were not commonly used. The disaster myths commonly used when reporting on Harvey were the myths of low community morale and panic. Other myths such as the anti-social myth was also used, although to a lesser extent. The looting myth and the local organisations being ineffective myth were seldom used. The paralyzing shock and helplessness myth was never used, and in fact emergent behaviour was common amongst those impacted.

The myth of low community morale was one of the most used myths. While reporting on Harvey the myth was arguably used in a covert and not overt way. Only one instance expressed doubt as to rebuilding, with one school superintendent stating that some schools may not be used ever again. The other use of the low community morale myth centres around the myth that argues that to counter low community morale "Such demoralization can be partly countered by quick visits of important public officials from outside the stricken area." (Dynes and Quarantelli, 1972:5). Indeed, both networks reported on then President Donald Trump making visits to the area.

The myth of panic was another one of the most used myths when examining coverage of Harvey. CNN used headlines such as “They’re panicking” (McLaughlin, 2017). CNN and FOX both made use of the panic myth when quoting authorities imploring people not to panic. Instances of this included the Houston mayor stating ““This is a situation where at this point, people just need to be calm and not panic,”” (Andone, 2017). CNN and FOX both quoted authorities and volunteer rescue workers when reporting on panic after Harvey.

Unfortunately, because panic appears often times misunderstood, the belief therein that people will panic has been used in such a manner that governmental agencies and officials may use the notion of people panicking to delay evacuation orders. Dynes and Quarantelli (1972:4) argue that the implication of this myth leads to “Knowing that persons are not able to handle threats to themselves with any degree of rationality, warnings should be withheld until the last minute when the consequence of the panic which would result and the damage that would come from disaster impact are somewhat equal.” Possibly, the belief in the panic myth by public officials and politicians had some real-world consequences for those impacted by Harvey. Evacuation orders were never issued for Houston. While not explicitly mentioning panic to justify his decision, Mayor Turner of Houston chose to not issue an evacuation order, appearing to allude to panic as one of the reasons; ““You literally cannot put 6.5 million people on the road,” Turner said in a press conference. “If you think the situation right now is bad, you give an order to evacuate, you are creating a nightmare.”” (Andone, 2017).

CNN adds to the perception that panic is inevitable after a disaster by quoting a volunteer from the Cajun Navy stating that ““You have people rushing the boat. Everyone wants to get in at the same time. They’re panicking. Water is rising.” Because of the hostile responses, the Cajun Navy has been forced to halt some rescue attempts, Cain said.” (McLaughlin, 2017). The belief in the panic myth by a volunteer appears to echo the findings of Drury, Novelli and Stott (2013) wherein they found that UK volunteer football stewards were more likely than civilian safety professionals and members of the police to endorse the panic myth. The volunteer from the Cajun Navy appears to confuse appropriate flight behaviour with panic.

The anti-social myth was occasionally used when reporting on Harvey. Prior research has established that crime will decrease after a natural disaster. Confirming prior studies about crime decreasing after natural disasters, a recent study focusing on crime levels in the USA

after natural disasters found that there was a decrease in the amount of crime in areas affected by natural disasters (Berrebi, Karlinsky and Yonah, 2021).

The reports of anti-social behaviour from CNN included a quote from a member of the Cajun Navy reporting that those waiting to be rescued were acting in an anti-social manner by attempting to steal a broken-down boat and shooting and even shooting at boats: “We have boats being shot at if we're not picking everybody up.” (McLaughlin, 2017). In contrast to CNN reporting people acting in ways that were anti-social, FOX quoted authorities stating that no reports of shots being fired had been made: “Houston authorities say they have not received any reports of gunshots being fired at a group of volunteers known as the Cajun Navy, despite a spokesman for the group saying shots were fired.” (Authorities: No report of shots being fired at 'Cajun Navy', 2017).

The myth of looting was rarely used in relation to Hurricane Harvey. This result was particularly surprising, especially given the rampant use of the looting myth when reporting on Hurricane Katrina. The only instance where looting was mentioned was in an article by FOX news wherein, they used official information to correct reports of looting. The absence of looting after Hurricane Harvey is consistent with literature which states that looting is rare but may occur if certain social conditions are present (Quarantelli, 2008:882-885). A recently published study focused on natural disasters occurring in the USA, analysing the crime rates after natural disasters from the period 2004 to 2015. The authors found that; “Our results show that crime rate (per 1000 persons) is negatively associated with natural disasters in the victimized county. In all our models, the coefficient of natural disasters in the county are either negative or statistically insignificant, indicating, if anything, a decrease in criminal activity in the aftermath of disasters. These results do not depend on the type of crime analyzed and hold true for crime altogether as well as violent and property crimes separately.” (Berrebi, Karlinsky and Yonah, 2021:1556) Given the lack of looting after Harvey, it would appear that the social conditions that often lead to looting were not present in areas impacted by Harvey.

The myth of local organisations being ineffective was only used once, and the myth was used in a covert instead of an overt way, as demonstrated by this quote from a CNN online article stating that “...Around 3,000 National Guard and Texas State Guard members were heading toward the affected areas...” (Darran Simon, 2017). However, a paper by Baker and Deham (2019:15) argues that local organisations were ineffective after Harvey. They state that “was

no such meaningful management within Harvey by responsible institutions. This fell on the populace, which they did very well” (Baker and Deham, 2019:15).

The myth of paralysing shock and helplessness was not used. However, a decision was made to focus on the pro-social and emergent behaviour of those impacted. In sampling for the human interest frames examples of altruistic and emergent behaviour were found. As demonstrated in many prior instances, and echoing literature on emergent behaviour, people tend to adapt surprisingly well after disasters. Residents and others in Harvey’s path reacted to Harvey in ways that were contrary to the myth of paralysing shock and helplessness. Rather than being shocked and sitting around idly residents took it upon themselves to help others impacted by the storm. This included planning the logistics around evacuations, opening businesses to provide shelters, and rescuing and helping authorities rescue those impacted by Harvey.

The headline, “Finding a 'new normal' ...Citizens with boats assisted authorities in search and rescue efforts” (McLaughlin, 2017), shows not only emergent behaviour, but also confirms what studies have shown about civilians often acting as rescuers after disasters. In another instance of a rescue after Harvey being done not by professionals but ordinary civilians, Levenson (2017) writes, “They called for help. That was Saturday. Jones and her family weren't rescued until Sunday. They weren't found by the Coast Guard but by a volunteer with a boat”. In their paper about Harvey, Baker and Deham (2019:15) argue that while civilian rescuers were the norm after Harvey, greater focus was placed on the official emergency response. Civilian rescues were termed “evacuations of convenience,” whereas those few engaged by officials were characterized as “life-saving.” Instead of being so shocked they could not function, residents and others impacted by Harvey helped each other in their times of need.

The framing analysis conducted showed that when reporting on Harvey CNN commonly used the human interest frame (21.67%), environment frame (10.84%), political frame (8.33%) and the frames of disaster and economics equally (4.58%). FOX used the human interest frame the most (15,79%). This was followed by the disaster frame (13.16%); the economic frame and the environment frame were equally utilised (10.52%). In their coverage of Harvey, FOX made no use of the political frame.

Examining the frames used when myths were present, a variety of frames were used when framing the panic myth. CNN framed a report with a quote from a volunteer rescue worker from the Cajun Navy as a human interest: altruistic report. This report also featured the sub-headline 'They're panicking' (McLaughlin, 2017). CNN began the report with describing known disaster mythology as quoted from a volunteer rescuer. The Cajun Navy person quoted appeared indignant that his kind act, his act of altruism was causing people to act in ways he perceived to be panicked.

FOX used the damage frame in conjunction with the panic myth. The headline used by FOX was “Harvey causes ‘catastrophic flooding’ in Houston, thousands of rescue calls made” (Harvey causes 'catastrophic flooding' in Houston, thousands of rescue calls made, 2017). The report initially focuses on the damage caused by Harvey. The mayor also encourages people not to panic.

The myth of low community morale was primarily used by CNN in conjunction with the political frame. FOX used the low community morale in combination with the hazard frame. The myth was counted as present when mention was made of an important person coming to visit or expressing solidarity with victims. Articles utilising the politician frame included “Trump pays 2nd visit to Texas; Houston mayor orders 300 to evacuate” (Hanna, 2017). The article was not about aid to those impacted, but rather centred around the symbolism of Trump going to go visit those impacted. FOX while mentioning Donald Trump’s visit, placed his visit much lower on their report. The report first spoke of rescue calls made, and then Donald Trump’s visit, hence the categorization into the hazard frame.

The use of the myths in relation to frame and discourse present gave credibility to those who may not be familiar with disaster myths. Some would argue that quoting politicians and volunteers may lead to an accurate (volunteer) or governmental (politicians) perception of what is occurring in the aftermath of the disaster. However as shown above politicians and volunteer rescue workers may unintentionally perpetuate disaster myths.

5.2 Discussion of Coverage of Hurricane Irma

Irma made landfall in various Caribbean countries before eventually reaching the USA. FOX only used one instance of disaster mythology when reporting on Irma. CNN used various

disaster myths when reporting on Irma, the most frequent of which included the myth of looting and anti-social behaviour. The myths of local organisations being ineffective, and that community morale was low were seldom used. The myth of paralysing shock and helplessness was never used.

In examining the articles, it quickly became apparent that FOX's focus when reporting on Irma was primarily centred around the impact of Irma on the USA and in particular the state of Florida. In contrast CNN focused on multiple geographical areas, providing news coverage about the impact of Irma on the continental USA as well as providing news coverage on how Irma impacted areas outside of the continental USA.

CNN made use of the looting and anti-social myth in their coverage of Irma primarily using the myths when reporting on regions outside the USA. While this study concedes that the use of the looting myth when reporting on Irma by CNN was far greater when outside the USA, no evaluation was conducted on the actual crime occurring in these regions after Irma. However, Quarantelli (2008:885) does state that looting may occur if certain social conditions do exist;

They are a pre-impact concentration of disadvantaged people subject to everyday perceptions of vast differences in lifestyle; a subculture tolerant of minor stealing along with everyday organized youth gangs involved in serious crime such as drug dealing; and a local police force that was inefficient and corrupt

No analysis on crime stats and interviews was done and as such it not possible to confirm or deny whether or not looting and other forms of anti-social behaviour occurred as per the myths, or actually occurred. However, the use of the myths is examined.

Of all the myths found when analysing Irma, the looting myth was most commonly used. There was a distinct difference in the way CNN reported on looting based on whether or not the report came out of the USA. When the looting myth was used when reporting on issues impacting the USA after Irma, the context the myth was used in was to show that residents were concerned with preventing looting. An example from FOX includes a report on a tweet from Miami police warning would-be looters. CNN interviewed people impacted by Irma who wanted to go back to their place of residence to prevent looting. Notably the reports that focused on the USA did not report any instances of looting taking place. Conspicuously, when taking into account the

different countries where Irma made landfall, all reported instances of looting occurred outside the USA. Of the ten instances wherein CNN reported on looting, only one instance states that CNN was unable to confirm looting taking place.

When examining the sources quoted when reporting on instances of looting taking place, CNN used witnesses, second hand sources, politicians and government officials. Some sources used by CNN added to the validity of claims that looting was occurring after Irma, such as witness accounts of looting: “but the chaotic period after the storm, in which they watched people begin looting and stealing, was even more frightening. Wary of looters, Dr. Macleay and others at the resort decided to stay up through the night on patrol with a machete on hand, just in case.” (Levenson, 2017). Furthermore, quoting governmental officials and the French president, Mackintosh and Fox (2017) write, “Looting has broken out on some islands. France's Overseas Minister Annick Girardin said she saw people stealing televisions from shops”. CNN creates veracity that looting may have occurred, by reporting that French President Macron “condemned reports of looting and vowed to restore order by deploying 2,000 security personnel to street patrols on St. Martin” (Park, 2017).

However, CNN also used reports that relied on hearsay, for example: “Taylor told CNN in a Facebook message, adding that she was fearful of looters and had heard stories of people being held at gunpoint in their homes” (Mackintosh and O'Sullivan, 2017). CNN also quoted survivors stating that looting was imminent: “It's scary. Give us a week, a couple more days from now, people are going to start looting other people's houses.” (Mackintosh and O'Sullivan, 2017). The quote does however appear to imply that people had not yet reached the point where would-be looters were looting other people's houses.

In the report “Hurricane Irma leaves ‘nuclear landscape’ in Caribbean”, there are reports of looting taking place. By reporting that the French President condemned the looting taking place, CNN adds plausibility to the fact that looting may very well be occurring after Irma. However, CNN then proceeds to cast doubt on looting occurring, by stating after a witness account of looting that “CNN has been unable to verify claims of looting and armed citizens on the streets” (Park, 2017). Analysing articles centring around Irma, the contrast is stark between the reports of looting occurring in the Caribbean, and the fears of looting in the USA.

The frames used when the looting myth was present consisted primarily of the disaster, human interest and political frames. When using the human interest frame, CNN's primary focus was to frame the piece as a face-of type human interest story. CNN in their articles tended to start with the full name and surname and occupation. The person interviewed often included how long they had been living on the island affected. By doing so CNN humanises the person, creating the face-of frame. Other frames used around looting focused on the damage (the disaster frame) that had occurred and the politicians (the political frame) condemning looting and promising aid.

The anti-social myth was also frequently used by CNN when reporting on Irma. The anti-social myth was at times used in conjunction with the looting myth. All reports of anti-social behaviour occurred in territories outside the continental USA. When CNN reported on anti-social behaviour taking place, CNN primarily used civilians as sources. Examples given by witnesses included "Government patrols were overwhelmed by people on the streets with guns, he said." (Park, 2017) Other witnesses also alleged that there were "fights at grocery stores and gas lines" (Park, 2017). CNN quoted a resident from St. Thomas who told CNN that "'We're hearing rumors that people are posing as police officers and robbing people. We spoke with another nurse who was robbed at machete-point a few days ago," Cooper said. "We're terrified. It's a desperate situation.'" (Mackintosh and O'Sullivan, 2017). Other examples of anti-social behaviour included according to a witness; "On Sunday, he went to a gas station to fill up on diesel and a man on a scooter cut the line of cars, pulling out a gun." (Mackintosh and O'Sullivan, 2017). CNN did not give any indication of whether or not they were able to verify the fights or the man pulling out a gun. Similar to their disclaimer when reporting on looting, CNN does attempt to add a disclaimer by stating that they could not confirm the claims made. However, this disclaimer is present only in the Park (2017) article. The other articles make no attempt to question the credibility or attempt to confirm the witness accounts of anti-social behaviour.

The anti-social myth was also primarily used with the human interest and political frames. As with instances on looting, when interviewing witnesses reporting anti-social behaviour, CNN is inclined towards the face-of frame. The face-of articles do not elicit strong emotions, rather they are arguably used to drive the point that what happened to this person could happen to anyone.

The local organisations being ineffective myth was used three times and only by CNN. As with the looting myth, given the devastation of Irma, it is probable, that the myth of local organisations being ineffective ceased being a myth in the aftermath of Irma. Residents spoke of feeling abandoned, and feeling that help was not on its way: "It just felt like you had to call yourself to action and do it because no one was gonna protect us other than ourselves," and "We had to rise to the occasion and band together. It quickly became apparent assistance was not arriving," and "We had to prepare to take care of ourselves and figure out a way to survive." (Park, 2017).

Indeed, French President Emmanuel Macron's pledge of aid supports what Quarantelli and Dynes (1972:6) argues is a policy implication of the belief in the myth of local organisations being ineffective. They argue that there is the belief that "to show the victims they are not forgotten, massive aid should be brought in and widely publicized. Preferably this aid should be handled by non-involved outsiders who are in a better position to make balanced judgements than dazed and demoralized local officials" (Quarantelli and Dynes, 1972:6). The frames of disaster: damage and political: politician were primarily used with the myth of local organisations being ineffective. After the damage that had occurred, residents were doubtful as to whether local emergency services would be able to cope. The political frame was used in conjunction with the French President's visit to stricken areas.

The panic myth was used twice by CNN in their coverage of Irma. The myth of panic was used in one report focusing on the USA, and one report focusing on the Caribbean. Both times the term panic was misused. CNN used panic in the lead sentence of a story; "Fear. Panic. Heartbreak." (Levenson, 2017). However upon examination of the article the person states; "That's when I almost started to panic. It was the scariest thing." (Levenson, 2017). Arguably, what the person felt and what would have sufficed in the lead would have been fear. The other example of panic being used is a quote that correlates to Nogami's (2016:252) study that people perceive that those around them will panic: "'My kids are panicking; my wife, she's panicking.'" The person makes no mention of his own panic, focusing on his wife and children's panic instead. Furthermore, his behaviour suggests appropriate flight behaviour by leaving the immediate area, albeit not immediately.

CNN used the panic myth along with the environment: hazard frame and human interest: face-of frame. The environment: hazard frame was used in conjunction with a USA based article

where a man was getting ready to evacuate and felt his wife and kids to be panicking. The human interest frame was used when reporting on people's experiences, and a witness's experience of near panic.

The low community morale myth was used in conjunction with important politicians visiting affected areas to show support. These reports focused on the French President and Donald Trump going to visit those impacted. Intriguingly the myth was not used in ways that suggested a reluctance to rebuild. On the contrary a willingness to rebuild was reported on; "While rebuilding Barbuda is a daunting task, the alternative of abandoning the island is "crazy," Sanders said." (Sterling and Santiago, 2017). Examining the CNN reports on Irma, it became apparent that instead of suffering from low community morale, the community united after Irma. Indeed, Quarantelli and Dynes (1972:29) contend that "Individual suffering is always experienced in the reference to the plight of others". This is evident in an article wherein CNN discusses how Irma brought people together: "'We don't have food. We are getting through because the neighbor there, they cook. You know, everybody shares. Everybody comes together and they help us," one woman told TeleCuraçao" (Park, 2017). The low community morale articles for both USA and NON-USA were framed using the political:politician frame. These articles emphasised the important politicians visiting areas affected and showing solidarity with those who lost everything.

The paralysing shock and helplessness myth was not used. Instead, examples of emergent behaviour were reported on. Some examples include "locals have banded together to clear roads and undertake other post-storm tasks" (Park, 2017). Instead of waiting for rescuers, those impacted by Irma undertook search and rescue operations: "Marlatt said plans to restore normalcy hadn't begun yet because they were busy trying to chainsaw through and search for people who may be stuck inside their homes" (Park, 2017).

5.3 Comparing the Coverage of Hurricane Harvey and Hurricane Irma

The content analysis found that myths were present when reporting on Hurricanes Harvey and Irma, with more myths present when reporting on Irma. The looting and anti-social myths were the most commonly occurring myths when examining reports. Importantly, this research does not determine whether or not looting or other anti-social behaviours took place. To do so would involve conducting interviews and ethnographic surveys with those impacted by Hurricanes

Harvey and Irma. Unfortunately, this is a limitation of this study. Looting may or may not have occurred. Quarantelli (2008) has found that in certain conditions, looting will happen. Even so, the looting and anti-social behaviour will be far less than altruistic behaviour. Interestingly enough, while the altruistic frame was frequently used when covering Harvey, the altruistic frame was not utilised by either CNN nor FOX in their coverage of Irma.

The myths that appeared most often in coverage were the myths of looting, panic and anti-social behaviour. These findings correlate with other work on disaster mythology as conducted by Tierney, Bevc and Kuligowski (2006). CNN was more inclined to use disaster myths in their reporting of Hurricanes Harvey and Irma, with CNN using significantly more disaster myths when reporting on Hurricane Irma. The prevalence of the anti-social and looting myth in coverage about Irma does raise the question of whether or not the USA centric networks, weary of the rightful criticism after their reporting on Hurricane Katrina, were more reluctant to use the anti-social and looting myths in relation to USA based disasters. Further analysis of this is needed, perhaps using a critical discourse analysis.

Regarding panic as a disaster myth, this research has found that journalists use panic when perhaps words such as fear would be more appropriate. No real instances of panicked behaviour were exhibited in the discourse analysed. Indeed, the instances of so-called panic described in the articles do not meet the accepted norms for panic behaviour and instead meet the criteria for fear. Fear in the face of a natural disaster would be an appropriate response. Given the prevalence of the word panic in modern pop culture, one can only surmise that people use the word panic interchangeably with fear (Tierney et al. 2003). The myth of local organisations being ineffective is used infrequently but appears more prevalent when reporting on Irma. Because Irma wiped out the entire emergency response infrastructure on some islands, Irma would become what Quarantelli (2008) considered a catastrophe. Local organisations may well have been ineffective after Irma, simply because entire islands were decimated. However, Harvey impacted mainland Texas and did not appear to impede emergency resources.

As previously discussed, CNN appears to be far more inclined to use known disaster myths in their reporting, and the use of these disaster myths in an unexpected finding appeared to correlate to the geographical location that the story was centred around, and fewer myths were present when reporting on disasters that impacted the United States of America. These findings echo similar findings by Moeller (2006) and Cottle (2009), wherein the argument is made

that ultimately the media, and the newsroom, and the culture of the newsroom dictates whether or not a disaster will be reported on, and if a disaster is reported on, how it will be reported on. Pantti (2019:2) argues that it must be created for audience consumption and palatable to domestic audiences when creating a story. Given FOX's primarily domestic audience, this may explain why the newsroom chose to not report on the hurricane damage outside the continental USA. Whereas CNN reported on the damage outside the USA, by interviewing expatriates and tourists, they were able to create stories that appealed to their domestic audiences—using economics as a predictor of coverage (Pantti, 2019:2).

That the islands impacted by Irma are popular among American tourists may also explain why CNN chose to devote a significant proportion of online news articles to Hurricane Irma. Based on literature we know that geographic proximity is not a predictor of whether or not an international disaster is covered by US domestic media. However, research shows severity to be a strong predictor of coverage (Yan and Bissell, 2018:875). If we were to consider the argument made by Yan and Bissell (2018:877) that unreported international disasters were unreported because their degree of severity was less than domestic disasters, it would still not account for the result that CNN chose to cover the international impact of Irma, while FOX chose not to. Instead, FOX chose to focus on the less severe domestic impact of Irma, despite Irma in theory meeting targets of severity by US domestic media. Yan and Bissell (2018:878) contend that media resources are not always equally yoked. Using this argument, one can speculate that FOX's lack of international Irma coverage might be because FOX lacked the resources to channel into their international coverage of Irma. This in contrast to CNN who appears to place greater emphasis on foreign news and foreign correspondents.

Frames were found to differ depending on the hurricane and network, albeit the differences based on hurricanes were far greater than the differences based on networks when examining the same hurricanes. Both CNN and FOX made use of the human interest frames, when reporting on Hurricane Harvey. CNN was more inclined to use more of the human interest frame when reporting on Harvey; whereas FOX also focused on the economic frame of Harvey. When the networks reported on Irma, they both networks essentially used the same overarching frames, while the sub categories differed slightly. Both CNN and FOX used the disaster frame, the human interest frame, the environment frame and the political frame, with FOX being more inclined to the political frame.

5.4 Conclusion

CNN was more inclined to use disaster myths in their reporting of Hurricanes Harvey and Irma, with CNN using significantly more disaster myths when reporting on Hurricane Irma. The prevalence of the anti-social and looting myth in coverage of Irma does raise the question of whether or not the USA-centric networks, weary of the rightful criticism after their reporting on Hurricane Katrina, were more reluctant to use the anti-social and looting myths when reporting on hurricane Harvey a hurricane that primarily impacted the continental USA. As previously discussed, CNN appeared to be far more inclined to use known disaster myths in their reporting of hurricane Irma. In an unexpected finding, these disaster myths seemed to correlate to the geographical location, with myths being more frequently used when reporting on areas outside the continental USA.

Chapter 6: Findings and Conclusions

This research was undertaken to discover the prevalence of disaster mythology discourse(s) in the CNN and Fox News online coverage of Hurricanes Harvey and Irma, and how the use of disaster myths impacted the framing and representation of the hurricanes.

6.1 Prevalence of disaster myths in news coverage

Disaster myths were minimally used by both CNN and FOX in their online reporting of Hurricane Harvey. When disaster myths were used, myths such as panic and low community morale were predominantly used. The looting myth was not used when reporting on Hurricane Harvey, with the word looting only appearing once, when debunking claims from the Cajun Navy that people were looting.

In contrast however the myths of looting and anti-social behaviour were particularly prevalent when CNN reported on Hurricane Irma. When factoring in geographical location it was found that CNN was also more inclined to use known disaster myths when reporting on events happening outside of the USA. FOX took a more USA centric approach, featuring minimal reports on the impact of Hurricane Irma outside the USA.

6.2 Impact of disaster myths on framing and representation

The panic myth might very well be overused due to the popularity of the word panic in everyday vernacular. However, CNN and FOX online did not aid people in learning the true meaning of the word panic. When examining the representation of panic after Harvey, it was found that the term panic was often based on a quote from a speaker. Civilians, authorities and volunteer rescuers were all quoted on the necessity to either prevent panic, or that people were starting to panic. Notable speakers who added to the perception that panic was inevitable after Harvey included the Houston Mayor asking people not to panic, and a volunteer from the Cajun Navy telling CNN that people were panicking.

Arguably CNN in their online coverage gives credit to the panic myth, by quoting a volunteer from the Cajun Navy stating that panic was occurring. What the volunteer was describing was people rushing boats, a normal reaction to get out of a frightening situation. Quarantelli and

Dynes (1972:41) argue that “Even immediate personal experience is not a guarantor of accurate perception...Likewise there appears to be a perception that policies should be implemented in ways that cause people not to panic, despite panic after natural disasters being exceedingly rare”. The volunteer from the Cajun Navy may very well believe that the behaviours that he saw in people (fleeing) were indicative of panic. When reporting on the comments of the Houston Mayor imploring people not to panic, further credibility was given to the term panic, with the Houston Mayor seemingly alluding to a breakdown in societal norms, had he given an evacuation order. By quoting persons who may to the average civilian appear more informed about disasters and behaviour after disasters, FOX and CNN online both run the risk of reinforcing the belief that people will panic before and after a natural disaster. Unfortunately, the perception of panic appears to have been ingrained into people as panic meaning fear, and fearful behaviour. Lay people appear to be unfamiliar with the true meaning of the term panic. Asking people to not panic is not helpful. Fear after disasters is not a bad thing and is in fact a perfectly rational response to an event that has the power to kill. By using the term fear instead of panic, the risk is run that people will believe that those around them will panic.

The myth of low community morale was one of the most used myths when examining reports on Harvey. The myth was primarily used in conjunction with the political and hazard frames. The reports using the political frame focused on the supportive president, Donald Trump, going to visit areas impacted by Harvey. The other use of the myth centred around a local school authority stating that they were not sure if some schools were ever going to be reopened. The myth of low community morale and the use of the political frame seem linked to important persons showing solidarity with those affected after disasters.

CNN was more inclined to make use of the anti-social myth, relying on witness accounts of people acting in ways that were deemed anti-social. FOX only used the anti-social myth to argue against the validity of the claims. By relying on witnesses, particularly in relation to Irma, CNN cannot verify claims made. Indeed, Quarantelli and Dynes (1972:41) argue that “What are called eyewitness reports are most often descriptions by untrained observers. Too, even ‘valid’ personal experiences are always selective”. These witness accounts reported on after Irma at times were reliant on secondhand information.

There was no use of paralyzing shock and helplessness myth in articles by either CNN or FOX. In contrast however altruism was common after disasters, with both networks reporting frequently on altruistic behaviour after Harvey. Unlike with Harvey, articles about Irma were rarely framed to focus on altruistic behaviour after Irma.

The overuse of looting in relation to articles that pertain to areas outside the USA is particularly worrying. One might wonder if after the rightful criticism of the way the media reported on Katrina, the USA based media is nervous to the term looting in their domestic coverage of hurricanes. To report on looting ten times but to only add a disclaimer once may very well lead to the perpetuation of the looting myth, with real world consequences such as reluctance to evacuate occurring as a result of the belief in the myth. No judgements can be made on whether or not looting did occur, however one witness's quote seems to shed some doubt regarding the extensiveness of the looting occurring, particularly looting of private residences: "It's scary. Give us a week, a couple more days from now, people are going to start looting other people's houses." However, given that the French government and the French President condemned looting, looting may very well have taken place after Irma. Although the Caribbean islands impacted may very well meet Quarantelli social criteria for looting to occur, however, CNN's lack of disclaimers regarding the reports of looting may very well reinforce the perception that looting is a problem after disasters. The contrast in use of looting myths and anti-social myths when considering geographical areas is particularly stark.

Using Yan and Bisell's predictors of disaster coverage would explain why CNN reported on Irma but does not explain why CNN used disaster myths when reporting on Irma. However Yan and Bisell's degree of severity as a predictor does not explain why FOX barely reported on events occurring outside the USA. Using the degree of severity as a predictor, Irma was more severe than Harvey. Examining predictors of news coverage Cultural ties as a predictor of coverage raises the interesting question - is it possible that CNN's audience, simply because it is more diverse is inclined to have a closer cultural connection to the Caribbean, compared to FOX's predominantly American centric audience. Might this have factored into FOX's decision to make an active choice to not report on the events and devastation of Hurricane Irma and her impact on the Caribbean islands?

The consequences of the perpetuation of these myths may very well lead to real life consequence such as reluctance to evacuate due a perceived threat of looting or panic, and

politicians and governmental officials withholding information due to their perception that it may lead to panic. The result of withholding information may create a lack of trust. Indeed, Houston residents were never given a mandatory evacuation order, with the mayor seemingly alluding to panic and the fact that the evacuation would be uncontrollable.

While this research does not seek to understand why disaster myths occur, the role of the media is ultimately to report disaster events in a manner that is responsible. CNN in particular ought to place more emphasis on the credibility of their sources, placing less reliance on second-hand information that cannot be confirmed. If they are not able to confirm the events, they need to start their article with a disclaimer. The authors Wegner and Friedman (1986:48) ask “how many articles are necessary to prove that the media is perpetuating disaster mythology?”. The number of articles around looting, panic and other forms of anti-social behaviour certainly appear to perpetuate disaster mythology.

6.3 Limitations of the study

One of the shortcomings of this research has been the inability to compare what was happening on the ground, in particular with Irma, with that which was reported on. Interviews with those impacted and an analysis of crime stats in areas impacted by Irma might have shed further light into whether or not looting and anti-social behaviour occurred. It was also unfortunate that despite examining the same hurricanes, an accurate comparison of Irma was not possible as FOX did not appear to cover what was occurring in the Caribbean islands after Irma.

The other major shortcoming for this research project is that all of the coding had only been done by one person. This means that there is a lack of inter-coder reliability, and others may very well code articles differently, particularly in the framing analysis. This leads to concerns about the replicability of this study when examining frames.

6.4 Recommendations for further research

Further research including a comparative critical discourse analysis needs to be done in order to establish why CNN in particular appears more likely to use disaster myths when reporting on events occurring outside the USA.

More research also needs to be done to establish why people are so inclined to believe in disaster myths and the role the media plays in the perpetuation of these myths. Finally, research needs to be done on how to educate people on behaviour after disasters.

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Appendix A

Codebook

CODE BOOK:

Source: (1) CNN (2) Fox News Online

Hurricane: (3) Harvey (4) Irma

DISASTER MYTHOLOGY

Disaster mythology: looting

Eg, reports of people taking possessions

Disaster mythology: anti-social

Eg, reports of people acting in ways that are contrary to societal norms

Disaster mythology: panic

Eg, reports confusing appropriate flight behaviour with panic.

Disaster mythology: paralyzing shock and helplessness

Eg, reports of people sitting in shock

Disaster mythology: local organisations ineffective

Eg, reports of local organisations unable to cope, and outside help needed

Disaster mythology: low community morale

Eg, reports expressing a reluctance to rebuild

POLITICAL FRAME

Political Frame: government leaders

Eg, leader of FEMA, Military,

Political Frame: policies and issues

Eg, evacuation mandates, special funding from congress to help aid

Political Frame: politicians

Were politicians the primary focus?

ECONOMIC FRAME

Economic Frame: economic impact

Eg, Mentions of cost of hurricane, cost to rebuild

Economic Frame: business issues

Eg, businesses unable to open because of event, amounts of losses to businesses because of event, fuel prices increasing due to demand and shortage

ENVIRONMENT FRAME

Environment Frame: natural environmental impact

Eg, will these floods wipe out a rare breed of bird, are these floods leading to more alligators going into homes?

Environment Frame: hazard

Eg, has the environment created a hazard for people? eg, people will no longer be able to stay in their houses; people may have to evacuate their homes due to hazard of potential flooding? Levees not working as intended

Environment Frame: health

Eg, is the current environment actively or potentially actively risking the health of people? (EG Cholera from lack of clean water)

HUMAN INTEREST FRAME

Human Interest Frame: face of/ human impact

Eg, Human disaster stories, interview with victim or survivor, stories of resilience or loss. Eg, what is the human toll to this disaster, what have people lost in this disaster?

Human Interest Frame: feeling

Eg, when reading the story are feelings of rage, empathy or sorrow conveyed?

With human interest, feeling, and human impact are to be measured looking the words used, if the first words used express utter sadness it can be coded as being human interest with a feeling frame. If the article has a victim that talks about property loss, it can be coded as human impact/face of frame.

Human Interest Frame: altruism

Eg, is this bringing out the best in people, are they coming together to help others

DISASTER FRAME

Disaster Frame: Casualty

Mentions of Death or Injury. Must be mentioned in a way that does not illicit any emotion. IE 50 People died and 5 were injured.

Disaster Frame: Damage

Mention of damage, where explicit economic cost of the damage is not spoken about in the data



Thousands rescued as Harvey's waters rise

By **Elliott C. McLaughlin**, CNN

□ Updated 0813 GMT (1613 HKT) August 29, 2017

(CNN) — Even as darkness fell and the waters kept rising, emergency officials in Houston continued fielding calls overnight from flood-stranded Texans. Thousands have been rescued so far, many are still waiting to be picked up.

"The Coast Guard is continuing to receive upwards of 1,000 calls per hour," US Coast Guard Lt. Mike Hart said Monday. "Today alone, the Coast Guard has rescued over 3,000 people. That includes both air rescues and rescues using boats."

Since midnight Sunday, more than 2,300 calls have poured in to the Houston Fire Department, including 400 calls for rescue Monday afternoon, Houston officials said. Four people have died as a result of the catastrophic storm.

Houston police had rescued 1,000 people since Monday morning, bringing the total number rescued to more than 3,000 since the storm flooded the city, Houston Mayor Sylvester Turner told reporters Monday night.

Live video from Houston showed rescuers in small boats on one flooded street carrying people to higher ground.

'They're panicking'

As Harvey dumped rain on East Texas and the waters rose, people started to panic, rushing rescue boats and even shooting at them if they didn't stop, said one volunteer rescuer.

Clyde Cain, of the Cajun Navy, a Louisiana-based rescue force that gained fame during Hurricane Katrina, said in one instance, a boat broke down, and while the crew sought shelter in a delivery truck, people tried to steal the inoperable boat.

"They're making it difficult for us to rescue them," he said. "You have people rushing the boat. Everyone wants to get in at the same time. They're panicking. Water is rising."

Because of the hostile responses, the Cajun Navy has been forced to halt some rescue attempts, Cain said.

[Keep track of Harvey](#)

"We have boats being shot at if we're not picking everybody up. We're having to pull out for a minute. We're dropping an airboat right now to go rescue a couple of our boats that broke, and they're kind of under attack," he said.

There is no indication the water will stop rising anytime soon. Swollen rivers in east Texas aren't expected to crest until later this week, and federal officials are already predicting the deadly Tropical Storm Harvey will drive 30,000 people into shelters and spur 450,000 victims to seek some sort of disaster assistance. And yet, forecasters say, more rain is coming. Lots more.

President pledges 'rapid action from Congress'

game scheduled Saturday in Houston -- all have practices or games this week and were monitoring the storm before deciding if they will play.

After checking the rain gauge, a new daily rainfall record was set at the NWS Office of 16.08" be yesterday's record of 14.40" [#houwx](#)

— NWS Houston (@NWSHouston) [August 28, 2017](#)

'Landmark event'

Several locales have received 2 feet or more of rain, and forecasters say a reprieve won't arrive until week's end at the earliest. By then, rain totals could reach another 2 feet -- with isolated instances of 40 to 50 more inches - along the upper Texas coast.

"This is a landmark event for Texas," FEMA Administrator Brock Long said. "Texas has never seen an event like this."

Long said earlier that FEMA will likely be in Texas for years, and that Harvey will require one of the largest recovery housing efforts the nation has ever seen.

Harvey will likely surpass 2008's Hurricane Ike and 2001's Tropical Storm Allison, two of the most destructive storms to hit the Gulf Coast in recent memory, he said. Millions of people from Corpus Christi to New Orleans were under flood watches and warnings Monday as Harvey's storm bands repeatedly pummeled the same areas.

[#Harvey](#) is expected to retreat back to the Gulf of Mexico before heading back toward [#Houston](#)

Wednesday. [#txwx](#) [#TropicalStormHarvey](#)
pic.twitter.com/32RoWCover

— CNN Weather Center (@CNNweather) [August 27, 2017](#)

For state and federal officials working to mitigate Harvey's devastation, one of the more frustrating aspects of the storm is uncertainty.

"The word catastrophic does not appropriately describe what we're facing," said US Rep. Sheila Jackson Lee, D-Texas. "We just don't know when it's going to end."

Early Monday, Harvey was barely clinging to tropical storm status, but the danger is far from over. The storm is forecast to head southeast toward the Matagorda Bay and Gulf of Mexico, where it will pick up additional moisture before sliding back over Galveston and Houston, cities it has already hammered.

The slow-moving nature of the storm -- it has traveled about 3 mph, human walking speed, since Friday's landfall -- has fueled the rain and flooding. Houston's William P. Hobby Airport recorded more than a foot of rain Saturday and 11 inches of rain Sunday, the two wettest days recorded since 1930.

Even when the rain is gone, dangers will persist, said National Weather Service Director Louis Uccellini, because

"the flooding will be very slow to recede."

Finding a 'new normal'

Authorities: No report of shots being fired at 'Cajun Navy'

Louisiana could see another 20 inches of rain from Harvey

Water rescues already under way; Rick Leventhal reports from Lake Charles

NEW

You can now listen to Fox News articles!

Houston authorities say they have not received any reports of gunshots being fired at a group of volunteers known as the Cajun Navy, despite a spokesman for the group saying shots were fired.

The Cajun Navy is a group of volunteers that formed in Louisiana after Hurricane Katrina. They have dispatched people to help during Harvey.

Clyde Cain of the Louisiana Cajun Navy's says on the group's Facebook page Monday night that he wasn't sure if looters fired at the rescuers or fired up into the air. He says no one was hurt.

The Houston Chronicle [spoke with](#) Jon Bridgers, the founder of the Cajun Navy 2016 Facebook page. He told the paper that one group of volunteers were shot at when they did not help a group of stranded people and, in another incident, almost had a boat stolen.

Bridgers told the paper that he blames the desperate situation in Houston.

"It wasn't a surprise because we had some of the same things happen in the past. you got a very limited number of people out there who would do something like that," Bridgers said.

"We were hoping that it wouldn't happen, but it did."

The Associated Press contributed to this report

Appendix D

Hurricane Irma leaves 'nuclear landscape' in Caribbean

(CNN) — Residents of far-flung Caribbean territories and former colonies devastated by Hurricane Irma last week have a message for their longtime rulers: Don't forget us. Across once-lush islands now being compared to a "nuclear landscape," many residents find themselves in darkness, as power remains out, -and they're increasingly worried about dwindling food and water supplies.

In the storm's aftermath a volatile situation with ongoing challenges has forced thousands of people to fend for themselves.

"You listen to the radio. You call. But nobody comes," said Leroy Webb, a resident of St. Maarten, which is the Dutch part of the island. The French side of the island is St. Martin. "I even don't know how long it will take before people here get food. This morning, my wife was making soup with just two potatoes in it. We have nothing to eat," he told CNN affiliate RTL Netherlands.

Along with voicing feelings of abandonment, island residents spoke of widespread scarcity, the generosity of neighbors, looting and machetearmed volunteers standing guard over properties.

Hurricane Irma struck a [patchwork of independent island nations and territories](#) in various forms of association with France, the Netherlands, the US and the UK and killed at least 44 people in the Caribbean.

"This is the most extraordinary scene of decimation and devastation that many people have witnessed in their lives," UK Foreign Secretary Boris Johnson told CNN Wednesday as he toured Tortola, the largest of the British Virgin Islands.

"It really is a nuclear landscape."

US and Europe step up assistance

US and [European governments have responded to the disaster by stepping up support](#) for their territories and former colonies, sending ships with food, water, medical supplies and aid experts.

The US Federal Emergency Management Agency said it has dispatched nearly 443,000 meals, 270,000 liters of water and other supplies to St. Thomas and St. John.

The US Army Corps of Engineers is assessing the main hospital on St. Thomas, according to the defense department. The corps is also helping ship a 750-kilowatt generator to St. Thomas to restart the island's power plant.

Still, many residents feel overlooked.

"We're just waiting," said Mike Simmonds, whose St. Thomas home since 1985 sustained severe damage. "I wouldn't say (for) help. One thing I can say for the weather report ... whenever there's a storm in the area, they always seem to jump over the Virgin Islands before the storm hits. It's always, 'Is it going to hit Florida? Is it going to North Carolina?' I'm like, 'Hello. It didn't reach us yet. Tell us what to do.'"

'We do feel forgotten'

Anne Bequette, a wedding photographer in St. John, told CNN Wednesday that the smallest of the US Virgin islands will take years to rebuild.

"I understand that in Florida all are hurting as well and my heart goes out to all of those affected," she said. "But I've heard from some in the States that they're looking at a few weeks without power. We're looking at next year."

The US territory has been largely abandoned in the aftermath of the deadly storm, she said. "We do feel forgotten," she said. "We're being completely overlooked. I feel like St. John is just a dot on the map to some people. There are so many lives down here that need help from you guys and from the States."

In the absence of federal emergency assistance, Bequette said, locals have banded together to clear roads and undertake other post-storm tasks.

"We need food. We need water. We need propane for generators. We need tons of resources and medical supplies," she said. "There are women with broken hips being turned away from the clinic because they're not a life-or-death situation right now."

Adam Marlatt, the founder of Global Disaster Immediate Response Team, had a stark assessment speaking from St. John, which is part of the US Virgin Islands.

"The biggest problem," he said, was "not just debris but getting people off the island because there's no sustainable option for them."

He said virtually 100% of the power infrastructure is damaged or destroyed and that every power line over the roads was down. Marlatt said plans to restore normalcy hadn't begun yet because they were busy trying to chainsaw through and search for people who may be stuck inside their homes.

From paradise to hell



European
politicians,
including

French President Emmanuel Macron, visited the overseas territories this week. Macron condemned reports of looting and vowed to restore order by deploying 2,000 security personnel to street
Macron: St.

**Martin will
be reborn**

02d49

patrols on St.
Martin. He
also

offered assurances that power will be restored, running water will return and schools will reopen in the coming weeks.

European governments stepped up their support for their territories and former colonies in the Caribbean that were devastated by Hurricane Irma last week, with the French President and the King of the Netherlands both traveling to the region.

Emmanuel Macron will leave Monday night for the Caribbean island of St. Martin to show his support for the relief effort, French Interior Minister Gerard Collomb said on Sunday.

Dutch King Willem-Alexander has already arrived in Curacao where he visited injured evacuees, and is scheduled to visit St. Maarten, St. Eustatius and Saba on Monday, Karel van Oosterom, the Dutch permanent representative to the United Nations, said in a tweet.

But to those who fled the conditions there, it sounded like wishful thinking.

"It's really like the end of the world over there right now," said Frances Bradley-Vilier, who moved to St. Maarten three years ago. "I'm not trying to be dramatic but there's no water, there's no electricity, there's no way to communicate with each other."

Three days before Irma made landfall, Bradley-Vilier got married to

Dominique Vilier, who is from the island. Their newlywed bliss was shortlived.



They had made their home together in St. Maarten in recent years, but it didn't take long for them to realize they had to leave after the storm.

Dominique Vilier said people were robbing others for whatever they

Reports of looters with machetes in St. have.

Government patrols were

Maarten 02d34 overwhelmed by people on the

streets with guns, he said. CNN has been unable to verify claims of looting and armed citizens on the streets.

The night before he left, Vilier said two people tried to break into his house "and I had to scare them off."

"That's when I decided I have to leave," he said. "It's madness."

They were able to get to Puerto Rico, but hope to return to the island.

"St. Maarten will always be home. This is where I'm from. But it won't be the same," Vilier said. "It just takes a couple hours, from paradise to hell."

We had to 'figure out a way to survive'

Kaiann Macleay and her husband had been at a St. Martin resort when Hurricane Irma struck. After the storm subsided, they went outside and saw the debris from homes, resorts and businesses.

She said that some people were snatching up anything they could get their hands on, from necessities like gas to luxury goods.

The French Caribbean island of St. Martin after it was hit by Hurricane Irma.

Her husband, Lachlan Macleay and other guests formed a volunteer patrol armed with machetes and kitchen knives, and they took turns keeping night watch over the property.

"It just felt like you had to call yourself to action and do it because no one was gonna protect us other than ourselves," he told CNN's Erin Burnett. "We had to rise to the occasion and band together."

It quickly became apparent "assistance was not arriving," his wife added. "We had to prepare to take care of ourselves and figure out a way to survive."

They were later able to get to Puerto Rico.

In the time of scarcity, community supports one another

While the devastation brought fear and chaos, it also brought a sense of community among survivors who shared what resources they had left.

One woman who lost her Philipsburg, St. Maarten, home, said the neighbors were helping her.

"We don't have food. We are getting through because the neighbor there, they cook. You know, everybody shares. Everybody comes together and they help us," one woman told TeleCuraçao.

In St. Thomas, which is part of the US Virgin Islands, Julien Alleyne survived Irma by hiding in his bathtub for 18 hours. He said he was fortunate not to run out of food, thanks to the kindness of others.

"We are lucky to have friends and family nearby that had plenty of food and water. I'm thinking about the people who can't rely on the people around them, getting supplies. It's hard. There's lines everywhere, gas stations, grocery stores," he told CNN, after evacuating to St. Croix.

"I want to bring awareness to my islands. We're in a desperate situation here."

CNN's Ben Westcott contributed to this report.

Pro surfer, 16, killed by Irma- generated wave off Barbados

Zander Venezia died Tuesday while surfing off the east coast of Barbados. (Facebook)

A promising professional surfer from Barbados was knocked off his board and drowned Tuesday while riding waves generated by Hurricane Irma.

The World Surf League said that Zander Venezia, 16, was surfing at a beach called Box by Box on the east coast of the island country when he was knocked over by a wave that closed in on him from both sides — a so-called "close-out set."

Surf instructor Alan Burke [told SurYine](#) magazine that Venezia was bleeding and unresponsive when he was pulled from the water by fellow pros. Burke added that the teen may have hit his head on the shallow reef when he fell off his board.

"They tried to get him to the beach quickly, which was very difficult," Burke told SurYine. "Box by Box is a tough place to get in and out of, even if you have the ability. There's lots of big rocks around, and some stick out of the water."

Burke added that Venezia's last words were "I just got the best wave of my life!"

While Barbados was not in the direct path of Irma, the Category 5 storm brought high winds and rain to the small island country.

Venezia won the Rip Curl Grom Search in North Carolina in mid-August, and in April he won the National Scholastic Surfing Association regional championships.

He was expected to represent his home country in the 2020 Summer Olympic Games in Tokyo, the first to feature surfing as a sport.

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