THE MEDIA'S ROLE IN RISK SOCIETY: COVID-19 COVERAGE THROUGH BECK'S

MODERNITY THEORY

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By

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## I.        Acknowledgments

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My education has truly been a labor of love. For that, this thesis is dedicated to my grandfather, John Kurila — dearly known as "Bobby" to his grandchildren — who died in May 2020. A teacher and school administrator of 38 years, Bobby is remembered as an excellent educator, estimated to have touched the lives of over 3,500 students. While a serious and successful man, he was the life of the party. He enjoyed holidays surrounded by family; traveling for dance recitals, sporting events, and celebrations; and swinging a driver on any fairway — regardless of the weather — with his golfing buddies. Bobby instilled in me a fondness for northern Ohio and my Slovakian heritage, a strong worth ethic, and a love for education. I dedicate this thesis to his spirit and well-lived life.

**II.      Introduction**

Contemporary sociologist Ulrich Beck observed society inching toward an age of modernity characterized by increasingly low probability-high consequence risks. In modern-day "risk society," industrialism has exacerbated natural resources, strained geopolitics, and degraded social welfare. Consequences of modernity — economic inequality, health inequality, resource deficits — challenge institutional control and leave society vulnerable. Now more than ever, there is an ethos of risk and a sense of uncertainty and insecurity on the precipice of social transformation. In late 2019 and early 2020, the world experienced outbreaks of SARS-CoV-2, a novel coronavirus, aptly named COVID-19, which devolved into a pandemic that has infected more than 144 million people and killed 3 million at the time of publication (World Health Organization, 2021). Journalists have been at the forefront of this public health crisis, shaping public opinion and perception of health risks. Journalism has proved critical in holding public officials accountable and shielding audiences from disinformation, despite a growing war on the media. This thesis examined the role of the media during pandemics, epidemics, and public health crises using narrative and historical data from past crises. It concluded that coverage of previous emerging infectious diseases and COVID-19 needs amelioration. Ultimately, this paper prescribes recommendations for practitioners to better address the needs of modernity and the role media will fulfill in a future risk society.

### III.    Literature Review

#### A.  *Risk Society & Modernity Theory*

German social scientist Ulrich Beck pioneered four key sociological theories that help describe empirical changes and advancements in modern society: risk society, reflexive modernization, individualism, and cosmopolitanism. (Urry, 2014). His premiere work, "Risk Society," argues unprecedented risks and hazards are a consequence of modernity. This theory has been regarded by international scientific organizations as one of the most influential sociological works of the century, and it has contributed to interdisciplinary debates and further research (Urry, 2014).

In Beck's theory, risks and hazards are the repercussion of accelerated scientific and industrial development, which modern humans have never before experienced (Beck, Risk Society: Towards a New Modernity, 1992). For example, major industrial, scientific, and philosophical shifts in history correspond with increases in average human life expectancy, poverty rates, war-making capacity, energy output, gross domestic product per capita, and the expansion of democracy (Muehlhauser, 2017). Such periods include the Protestant Reformation, the Scientific Revolution, the Enlightenment, the British Industrial Revolution and its subsequent spread, and the World Wars (Muehlhauser, 2017). As shown in Figure 1, the arc of human evolution remained largely flat until the Protestant Reformation. However, it spiked at the plot point labeled "industry spreads to the periphery" in the 1700s and early 1800s, when the Industrial Revolution is generally agreed to have begun (Piper, 2018). Economic historian Joel Mokyr said in an interview with The Washington Post:

> "Until about 1800, the vast bulk of people on this planet were poor. And when I say poor,
> I mean they were on the brink of physical starvation for most of their lives. Life

expectancy in 1750 was around 38 at most, and much lower in some places. The notion

that today we would live for 80 years, and spend much of those in leisure, is totally

unexpected. The lower middle class in Western and Asian industrialized societies today

has a higher living standard than the pope and the emperors of a few centuries back, in

every dimension" (Swanson, 2016; Piper, 2018).

*Figure 1: The impact of historical events on six measures of global well-being[1]*
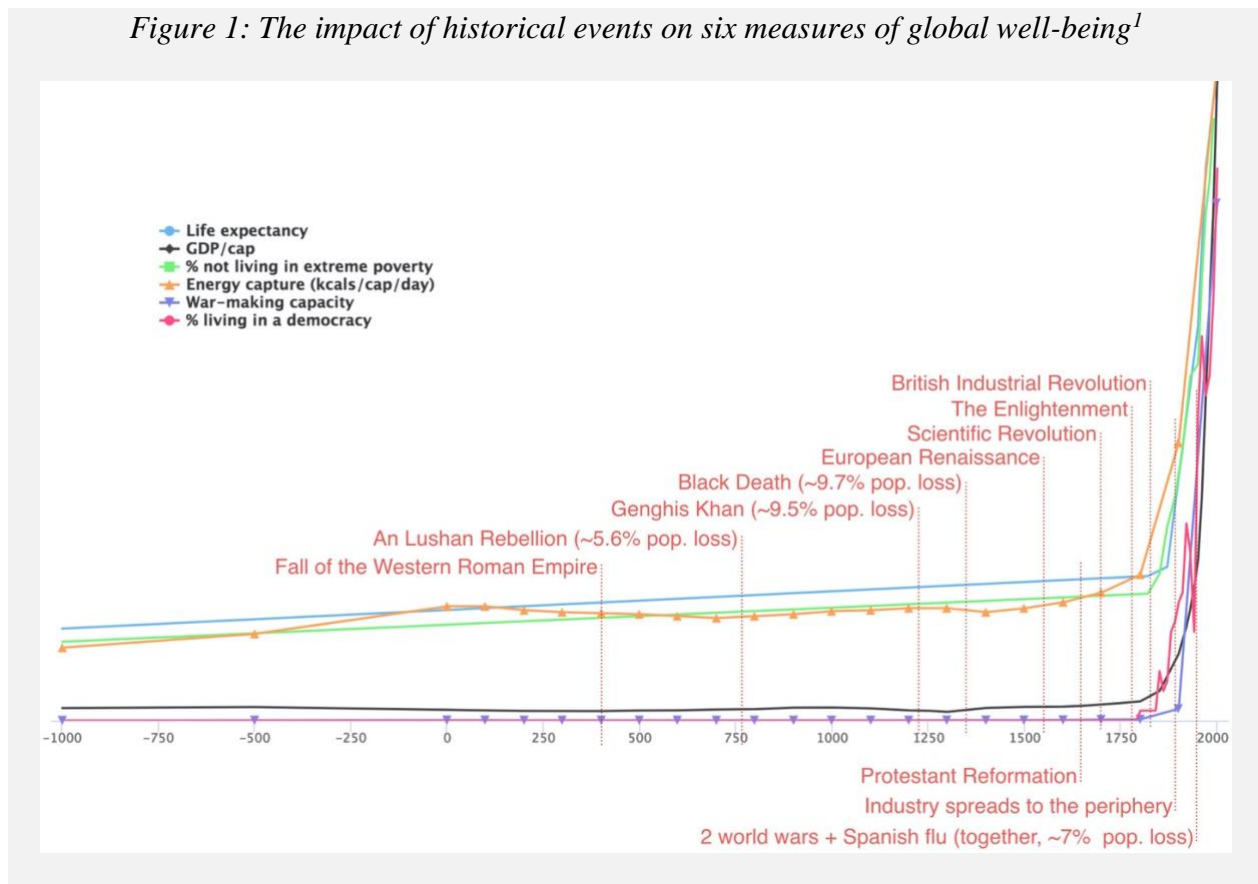


The Industrial Revolution, which began in Britain and eventually spread globally,

ushered radical changes from a traditional, agriculturally based economy to an economy based

on large-scale production of manufactured goods (Funk & Wagnalls New World Encyclopedia,

2018). While this shift proved opportune, these advancements came with challenges,

prominently urbanization. In America specifically, cities grew rapidly, which indirectly led to

noise and air pollution, traffic jams, slums, and sanitation issues (Library of Congress, n.d.).

These "incidental problem[s] of modernization" are risks, according to Beck (Beck, Risk

Society: Towards a New Modernity, 1992). Modern-day risks present themselves as issues like

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[1] (Muehlhauser, 2017)

climate change, labor exploitation, financial crises, cybersecurity, and a slew of over hazards consequential of exceptional scientific and industrial revolutions. Disasters are a symptom of risk society defined as natural or manmade acute collective traumatic or sudden events. Disasters range from hurricanes, floods, and earthquakes, to plane crashes, industrial accidents, and terrorist attacks (Vasterman, Yzermans, & Dirkzwager, 2005). According to the Centre for Research on the Epidemiology of Disasters, an international disaster and conflict health studies hub, there has been a steady increase in disasters since the 1970s, and over 22,000 disasters have been recorded since 1900 (UC Louvain School of Public Health; Vasterman, Yzermans, & Dirkzwager, 2005). Researchers from the University of Amsterdam noted: "It is hardly a surprise that disasters occur more often now than in the past: The world is getting more crowded, air traffic is busier, terrorists are operating worldwide, and the world is much more dependent on complex, but vulnerable technological systems" (Vasterman, Yzermans, & Dirkzwager, 2005).

Importantly, however, Beck asserts that humans do not yet live in a risk society but are rather moving toward it. While society grapples with current threats and hazards, risk consciousness is inherently forward-thinking and hypothetical (Beck, Risk Society: Towards a New Modernity, 1992). "We are currently experiencing a new paradigm. … Our decisions as a civilization entail new global problems and dangers resulting from the unintended consequences of modernity and radically contradicting the institutional language of control and the promise to manage disasters" (Cortiñas-Rovira, Pont-Sorribes, & Alonso-Marcos, 2015). For example, climate change — while rooted in science and data — has a theoretical component. In 1974, chemists first hypothesized that cooling agents, like chlorofluorocarbons (CFCs), deteriorated the ozone layer and increased ultraviolet radiation on Earth (Beck, Living in the world risk society, 2006). This early discovery led scientists to discover other unseen threats to the climate. While

these effects may not materialize for years or decades, that does not lessen their threat. Beck

writes: "Whoever believes in not-knowing … increases the danger of climate catastrophe. … The

more emphatically the existence of world risk society is denied, the more easily it can become a

reality. The ignorance of the globalization of risk increases the globalization of risk" (Beck,

Living in the world risk society, 2006). Once risks associated with climate change become

realized, new undiscovered hazards will plague society. This cyclical pattern will force society to

be continually future-oriented, deemphasizing the past's power to influence the present and

emphasizing the future's ability to do so (Beck, Risk Society: Towards a New Modernity, 1992).

Additionally, risk societies are reflective. Beck's theory of "reflexive modernization"

postulates risk societies are self-confronted by consequences that cannot be overcome (Beck,

Risk Society: Towards a New Modernity, 1992; Cottle, Ulrich Beck, 'Risk Society' and the

Media: A Catastrophic View?, 1998). Per the example of climate change, people are more

conscious of the imposing threat climate change and global warming pose, however, few of these

risks can be tamed without an overhaul of industrial society. According to the Union of

Concerned Scientists, even with widespread measures and transformative policies, climate

change effects cannot be reversed, only mitigated (Union of Concerned Scientists, n.d.). The

unwieldiness of risks challenges institutional control and disaster management, and this "evokes

the terrifying experience of being part of a vulnerable society that is overwhelmed by forces that

it neither controls nor fully understands" (Pan & Meng, 2016).

### B. Risk Society & The Media

The United States in the 20th century is accredited with embracing and normalizing

objectivity in reporting, which became an anchoring belief in routine news coverage (Edgerly &

Vraga, 2020; Deuze, 2005). A pivotal study in the 1940s, the Hutchins Commission,

professionalized journalistic tenets. The Hutchins Commission — operating under the formal

title, the Commission on Freedom of the Press — was formed after World War II by American

magazine magnate Henry Luce and University of Chicago President Robert Hutchins to examine

media's function in democracy (Pickard, 2015). The commission ultimately concluded the press

should be more socially responsible and serve the public interest (Coates Nee, 2014;

Commission on Freedom of the Press, 1947). Concurrently, the seminal work, "Four Theories of

the Press," introduced the social responsibility ideal of the press, which prioritized public service

— "servicing the political system, enlightening the public, and serving as a government

watchdog" — over profit (Coates Nee, 2014; Siebert, Peterson, & Schramm, 1956).

The news media have since evolved into a "democratic concept" — it is considered elite

to other forms of media, like entertainment, because of the functioning role it plays in democracy

(Edgerly & Vraga, 2020). This is flushed out in the "news-democracy narrative," which

prescribes qualities to news that make it necessary for a "knowledgeable and participatory

citizenry" (Edgerly & Vraga, 2020). These qualities — ethics, public service, objectivity,

autonomy, and immediacy — are central to the dominant occupational ideology of journalism.

The "public-service ideal" is a prominent journalism ideology (Deuze, 2005). This is concurrent

with a liberal media system in which "news is professionalized and detached from political

influence and opinion-giving" (Edgerly & Vraga, 2020; Hallin & Mancini, 2004).

> "Journalists share a sense of 'doing it for the public,' of working as some kind of
>
> representative watchdog of the status quo in the name of people, who 'vote with their
>
> wallets' for their services (by buying a newspaper, watching or listening to a newscast,
>
> visiting and returning to a news site)" (Deuze, 2005).

Additionally, the news-democracy narrative influences audiences' understanding of the news. Respondents in surveys about the news perspectives among young people criticized it as "boring" and "removed from their lives" but insisted the news be devoid of entertainment. (Buckingham, 2000; Barnhart & Wartella, 1991; Edgerly & Vraga, 2020) "News is like a whole-wheat sandwich: You eat it because it is healthy, not because it is tasty," one respondent to a study said (Edgerly & Vraga, 2020; Costera, 2007). News consumers recognize news as a democratic value and expect "objectivity, neutrality, and credibility" from their sources — consistent with the values ascribed by journalists (Edgerly & Vraga, 2020; Woodstock, 2014).

Central to risk society, Beck's theory positions the media to perform a critical surveillance role: "We do not know what it is we don't know — but from this, dangers arise, which threaten mankind" (Beck, Living in the world risk society, 2006). Communication informs people of potential risks and advises risk-reducing behavior (Reynolds & Seeger, 2005). "Risk has become a defining concept in public and political debate and the mass media are seen to play a key role in this social transformation," according to a 1997 analysis of risk reporting (Kitzinger & Reilly, 1997). Researchers suggest that the media's attention to and emphasis on threats is central to generating public concern. The emergence of a global society and the globalization of mass media — including national and international broadcast stations, online news outlets, and social media — has made risks visible that would otherwise be unknown (Laurent-Simpson & Lo, 2019). Given the unprecedented nature of contemporary risks, their grand influence, potentially catastrophic effects, and their publicity, Beck asserts risks can only be socially defined and widely accepted via scientific declarations, the legal system, and the mass media (Beck, Risk Society: Towards a New Modernity, 1992; Cottle, Ulrich Beck, 'Risk Society' and the Media: A Catastrophic View?, 1998). As Beck writes, science is needed to make hazards

visible, whereas the media are needed to make hazards digestible; therefore, the news media act as an intermediary, translating scientific knowledge to laymen speak, accessible to the general public (Beck, Risk Society: Towards a New Modernity, 1992; Wallington, Blake, Taylor-Clark, & Viswanath, 2010). In sum, news media report and deliver the signs of major crises (Pan & Meng, 2016). Communication researchers Yan Yan and Kim Bissell write:

> "Whether a disaster is covered in media outlets and how it is covered influence not only how people might interpret the news but also how media consumers might act toward the disasters as well as the victims. Media coverage of human suffering reflects the shared weakness of human beings when confronting life-threatening events and thus can evoke empathetic emotions from the viewers toward sufferers who live halfway around the world" (Yan & Bissell, 2018).

Cognitive communication or persuasion can influence one's beliefs about an issue, attitude, or object by substituting undesirable messaging with desirable messaging (Nelson & Oxley, 1999). Political messaging, for example, can convince people of the risks of climate change, encouraging constituents to commit individual actions to reduce carbon dioxide emissions. If the messaging is persuasive, people would favor such activity. Prospect theory argues that people are averse to risky outcomes if avoidable (Bomlitz & Brezis, 2008). Researchers observe that when presented with two options, people are more likely to choose the option with a smaller probability of risk (Ungvarsky, 2020). When asked whether one would choose a shorter international flight with bumpy turbulence versus a longer international flight with no turbulence, prospect theory hypothesizes more people are likely to choose the latter, safer option. In the previous climate change example, using prospect theory people would be more inclined to take preventative or mitigative actions rather than risky inaction.

How this messaging changes one's perception, understanding, feeling, or value is the theory of media ecology, coined by communication theorist Neil Postman and popularized by Herbert Marshall McLuhan and his third work, "Understanding Media: The Extensions of Man" (Islas, 2016). According to media ecology, dominant media shape an era's cultural environment and aid the evolution of new, soon-to-be dominant media, much like how dynamic factors shape ecosystems (Dewey, 2018). The oldest media, storytelling, transitioned from orality to writing with the invention of written systems. The movable type printing press made literacy accessible. Technological innovation in the 19th-century made communication more efficient, and the development of the television and exponential growth of computer technology created the morality, ethics, social and behavioral norms, economic classes, and sense of identity and self-worth of the late-20th and 21st century (Dewey, 2018). Essentially, communication theorists argue the medium through which a message is transmitted is a distinct part of the communication style. In a 1969 Playboy magazine interview, McLuhan said: "Effective study of the media deals not only with the content of the media but with the media themselves and the total cultural environment within which the media function" (Norden, 1969; Dewey, 2018).

Mass media, however, should not go unopposed or unquestioned when communicating risks, Beck argues (Beck, Living in the world risk society, 2006). The media have interests in the framing and angling of risk communication, and therefore, it must present an ethical, objective point of view. Media outlets are cognizant of their commercial appeal, standing among competitors, and formative role in popular culture, which may alter or downplay their coverage of risks (Cottle, 1998). Additionally, Cottle writes, "… it is likely that [the media's] representations of risk and 'scientific battles' may deliberately be framed in terms that resonate with ordinary concerns and popular culture" (Cottle, 1998). The commonplace journalistic

practice relies heavily on sources who provide information, quotes, or commentary; the

relationship between journalists and sources is such that news media may indirectly serve to

advance one's interest (Shen, 2003; Nelson & Oxley, 1999).

Journalistic conventions prescribe criteria for "newsworthiness," a qualifier of whether an

issue or topic merits coverage. Journalists use the following determinants to either explicitly or

tacitly evaluative newsworthiness: timeliness, accuracy, prominence, proximity, human interest,

significance, and conflict or controversy. In health reporting, journalists most often considered

the "potential for public impact" or whether the story offered "new information or development"

when judging its newsworthiness. Grading of newsworthiness shapes coverage early into the

news production process, as shown in Figure 2.

*Figure 2: The journalistic process[2]*
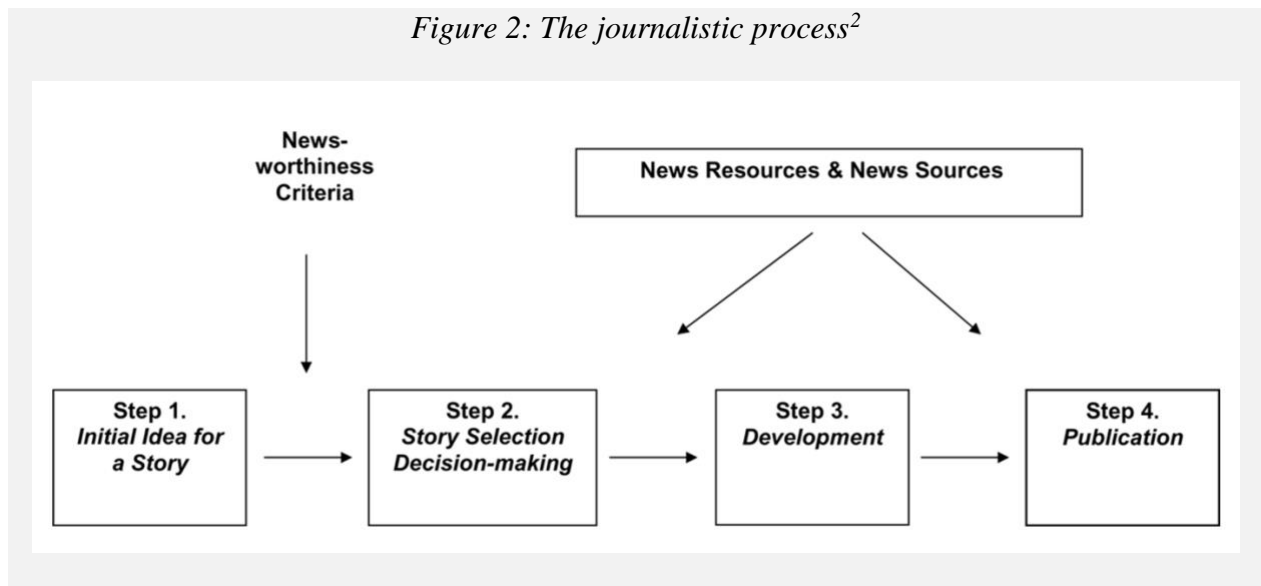


Because of the evolving media landscapes and issues facing the industry, the media must be

selective in their coverage of risks because "… even if 'risk' is inherently newsworthy, not all

risks can be in the news all of the time" (Kitzinger & Reilly, 1997).

U.S. newspaper employment has declined 23% between 2008 and 2019, according to the

Pew Research Center. In 2008, 114,000 people were employed by newsrooms; that number

rested at about 88,000 in 2019 (Grieco, 2020). A Hussman School of Journalism report titled

"The Expanding News Desert" found the U.S. lost almost 1,800 newspapers from 2004 to 2018

— roughly 20% of the nation's newsrooms. Among the closures were large dailies, like the

Tampa Tribune and the Rocky Mountain News, and small papers with circulations under 5,000

that served underrepresented markets (Abernathy, 2018). Additionally, 2018 marked the lowest

U.S. newspaper circulation level since 1940, and audiences of local television news have also

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[2] (Viswanath, et al., 2008)

steadily declined (Barthel, 2019). Pew Research Center's 2012 "State of the News Media" report

stated:

> "The civic implications of the decline in newspapers are also becoming clearer. More
>
> evidence emerged that newspapers (whether accessed in print or digitally) are the primary
>
> source people turn to for news about government and civic affairs. If these operations
>
> continue to shrivel or disappear, it is unclear where, or whether, that information would
>
> be reported" (Mitchell & Rosenstiel, 2012).

Estimates suggest U.S. newspapers lost more than 70% of their advertising revenue from 2006

and 2020 (Dawson, 2021). However, there were gains in digital ad revenue and digital-native

news sites, indicting an industry-wide trend toward digitally focused and hybrid news models

(Grieco, 2020; Barthel, 2019).

The COVID-19 pandemic contributed to the industry decline and compounded

advertising revenue strains, despite the ever-growing importance of the media during an

international health crisis (Dawson, 2021). A 2020 article in The Atlantic summed it up with

their headline, "The coronavirus is killing local news." The article read: "Among the important

steps you should take during this crisis: Wash your hands. Don't touch your face. And buy a

subscription to your local newspaper" (Waldman & Sennott, 2020). Within the first half of 2020,

U.S. newsrooms eliminated more than 11,000 jobs, whilst implementing widespread pay cuts,

furloughs, and layoffs. Additionally, in February 2020, McClatchy — the nation's second-largest

newspaper chain — filed for bankruptcy, signaling an upheaval of the industry. Similar strains

were felt by other Western markets like the U.K. and Australia (Dawson, 2021).

Mainstream news media are ill-designed to focus on future threats or "sustained risk

coverage" because of the uncertainty in the scientific community, uncertainty of the news cycle,

and silence or lack of comment from government officials (Kitzinger & Reilly, 1997). This,

combined with external factors like sources' motivation and resources, can skew risk reporting,

often emphasizing risk over offering reassurance (Kitzinger & Reilly, 1997). Framing and

agenda setting, for example, can be averse to risk communication. Framing effects occur when

media emphasize certain relevant aspects of a report, which can sway audiences and public

opinion, altering how issues are perceived and widely understood (Shen, 2003). For example,

welfare has been framed as a "government handout" or encouraging dependency on the state for

assistance. Similarly, government engagements overseas may be framed as promoting American

values abroad, wasting taxpayer money, or a humanitarian act (Nelson & Oxley, 1999). Many

parties in the news production process concoct frames, including journalists, communication

practitioners, interest groups, or elected officials. "Spin" from these parties also influences

coverage (Nelson & Oxley, 1999). News organization structures and individual characteristics of

journalists may also influence sourcing, resources, media priorities, and story angles

(Wallington, Blake, Taylor-Clark, & Viswanath, 2010). Scholars also assert that the media tend

to focus coverage on novel or dramatic issues, which "they present in inflammatory ways"

(Ungar, 2008; Hilgartner & Bosk, 1988).

    *C. Risk Society, Pandemics, & Health News Coverage*

    The COVID-19 pandemic is not an anomaly. Pandemics occurred regularly throughout

history — from the plague, cholera, flu, or respiratory viruses like the novel coronavirus. The

spread of infectious diseases is attributed to the shift from hunting and gathering societies to

agrarian societies with densified populations, trade networks, and increased interactions between

humans and animals (Piret & Boivin, 2021). Humans' interaction with animals via farming, trade

of animal products, or domestication greatly increased the transmission of animal-borne

pathogens, or zoonoses (Piret & Boivin, 2021). Almost all known pandemics throughout history are zoonoses — diseases originating from animals that transfer to humans via contact with wildlife and livestock (Intergovernmental Platform on Biodiversity and Ecosystem Services, 2020).

Despite being ancient — they are allegedly mentioned in the Bible and inscribed on Mesopotamian tablets — zoonoses and the frequency of outbreaks have increased exponentially in the last few decades (Jabr, 2020). Wild rodents were the vectors for the Plague of Justinian from 541-543 A.D., the Black Death from 1347-1351, and the third wave of plague beginning in 1885 and reemerging into the present. Avian carriers likely caused the Russian Flu pandemic from 1889-1893, the Spanish Flu from 1918-1919, the Asian Flu from 1957-1959, and the Hong Kong Flu between 1968-1970. Into the 21st century, the 2002 severe acute respiratory syndrome (SARS) pandemic originated in bats, similar to the Middle East respiratory syndrome (MERS) pandemic in 2015, and the 2009 swine flu was transmitted from pigs (Piret & Boivin, 2021). COVID-19's animal reservoir is likely horseshoe bats traced back to a wet market — a marketplace that sells fresh seafood, meats, and produce — in Wuhan, China (Piret & Boivin, 2021; Lau, et al., 2020). As of publication, scientists have not conclusively traced COVID-19 to horseshoe bats, yet a researcher in Yunnan Province, China, found a virus in horseshoe bats that resembles COVID-19. Additional bat droppings from Cambodia show linkages (Beech, 2021).

As modern, global society continues to encroach on otherwise untouched environments, pandemics will become more frequent, according to a 2020 study by the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES). The IPBES estimates that about 1.7 million mammal and avian viruses are currently undiscovered; about 540,000-850,000 of those could infect humans. Humans' exploitation of the environment through industrialist land usage

and intensified agriculture, as well as meat-heavy diets "increases contact among wildlife, livestock, people, and their pathogens and has led to almost all pandemics," the IPBES' study reads. "How Humanity Unleashed a Flood of New Diseases," by Ferris Jabr for The New York Times, reads:

>"Deforestation, mining, intensive agriculture and urban sprawl destroy natural habitats, forcing wild creatures to venture into human communities. Excessive hunting, trade and consumption of wildlife significantly increase the probability of cross-species infection. Modern transportation can disperse dangerous microbes across the world in a matter of hours" (Jabr, 2020).

These changes in land-use caused by growing human populations are also linked to the emergence of 30% of new diseases since 1960 (Intergovernmental Platform on Biodiversity and Ecosystem Services, 2020; Piret & Boivin, 2021). The study also attributes climate change and the subsequent loss of biodiversity to this "spillover" of animal-borne diseases into humans. The commodification of land and disforestation expand the habitats of common zoonotic disease-carrying species like mosquitos or ticks (Piret & Boivin, 2021). Researchers suggest that humanity may be regressing toward a middle age "pre-antibiotic era" (Ungar, Hot crises and media reassurance: a comparison of emerging diseases and Ebola Zaire, 1998).

>"And just as the 'witch's brew' of pathogens that 'could become a threat' is growing, our organized capacity is decreasing. As the danger from past scourges … diminished, much of the public health system was dismantled. At present, it is deemed unfit to combat a major epidemic" (Ungar, Hot crises and media reassurance: a comparison of emerging diseases and Ebola Zaire, 1998).

Risk society theory supports the causation between industrialization and an increase in pandemics. When political, ecological, and individual risks run rampant and unchecked, global problems and danger emerge as a consequence of modernity. The rapid expansion of industry and the subsequent degradation of the environment are the unwieldy risks in this example, and pandemics are the consequence. And the number and richness of emerging infectious and zoonotic diseases are increasing (Smith, et al., 2014). In addition to the insurmountable human suffering pandemics cause, the IPBES estimates economic damages amount to more than a trillion dollars annually amid pandemics (Intergovernmental Platform on Biodiversity and Ecosystem Services, 2020). As a result, modern, global society will continue to be plagued by the risks of health crises, and these risks will unpredictably and invisibly increase (Pan & Meng, 2016).

News media act, and will continue to act, as an essential mediator between health crises and the public and give "publicity and meaning to numerous health crises of global suffering," according to scholars (Pan & Meng, 2016). Amid pandemics, events and facts are rapidly unfolding, hence accurate, effective, and efficient news coverage is paramount (Hoffman & Justicz, 2016). "Addressing epidemics and health outbreaks requires the active participation of the media since how journalists report issues can affect public perception of risks and influence behavior" (Thompson, 2019). The media can assume the role of a quasi-public safety official, public advocate, and emotional support system during a crisis (Veil, 2012). Because of the media's integral role in conveying public health risks, they must use appropriate sourcing, resources, and coverage angles, which influence reporting outcomes.

The media and public health organizations' relationship is critical to health crisis communication. Eighty percent of surveyed U.S. health news reporters reported contacting

health care providers for primary sourcing when working on stories. Other key sources for health reporters included government websites, press releases, and scientific journals (Viswanath, et al., 2008). The initial prompt for a health story, according to journalists, is often a suggestion from a source like press conferences, press releases, or wire service items (Viswanath, et al., 2008). The World Health Organization's (WHO) Outbreak Communication Guidelines emphasizes that public health authorities should "announce early," or proactively engage with the media as soon as they are aware of major public health events (World Health Organization Expert Consultation on Outbreak Communications, 2004; Duncan, 2009). This practice establishes public health authorities as the main credible sources (Duncan, 2009). A 2009 study commissioned by the European Centre for Disease Prevention and Control analyzed European media coverage of the 2009 H1N1 — or "swine flu" — pandemic. Results from the study indicated that coverage spiked when WHO made official statements on the state of the pandemic. For example, the single day (April 27, 2009) with the highest number of stories on the pandemic (842) corresponded with the day WHO raised the pandemic threat level. Additionally, national and international public health authorities were the leading sources for information in 75% of the stories analyzed, and WHO was cited as the main source in 28% of stories (Duncan, 2009). The study concluded that low numbers of articles critical of public health authorities (6%) compared to higher numbers of those supportive of authorities' actions (24%) show an established and trusting relationship with the media, and ultimately "proactive engagement with the media by international and national public health authorities resulted in factual, non-alarmist reporting of the first stages of the pandemic" (Duncan, 2009).

Communication is a critical aspect of crisis or disaster response, and the quality of that communication can drastically alter the effects of the crisis (Veil S. R., 2012; Veil, Reynolds,

Sellnow, & Seeger, 2008). However, the relationship between journalists and emergency managers during a disaster response is often distrustful. As Terry Anzur writes:

> "To the journalist, news is about conflict. The reporter strives not only to assess the loss of lives and property, but also to determine if the damage could have been prevented and who is to blame. The television journalist also must find the pictures that tell the most compelling story, even when the images are disturbing. To the public health professional, news is about the absence of conflict. Loss of life is minimized and injured survivors receive prompt and appropriate treatment. These [contrasting] agendas clash when TV-reporters and public health professionals are thrown together in the midst of a disaster. The reporter is drawn to the danger and drama, while health professionals emphasize prevention, reassurance and recovery" (Anzur, 2000).

Emergency managers often believe journalists sensationalize stories and are too critical of government officials or institutions, whilst journalists believe emergency managers obstruct the flow of information to the public (Veil S. R., 2012). Researchers claim emergency managers have some basis for this distrust. Journalists are rarely trained to cover emergencies; seven of 164 respondent newspapers reported offering staff training. Consequentially, coverage of emergencies is often riddled with errors, like coverage of Hurricane Katrina in 2005, which was fraught with unverified rumors and speculation (Garnett & Kouzmin, 2007; Veil S. R., 2012). Journalists may also impede government efforts, but paradoxically, emergency managers can impede journalists' work by restricting access or information (Veil S. R., 2012). Journalism also comes under scrutiny from health experts during crises. Medical professionals may accuse media practitioners of sensationalism, while simultaneously limiting journalists' access to health information (Holland, Sweet, Blood, & Fogarty, 2014). In the case of the series of U.S. anthrax

attacks in 2001, government sources and public health officials were charged with providing

journalists with scare information, leading to widespread disinformation accredited to "second

tier and even bogus experts" (Shapiro, Rowan, & Thomas, 2007). Ultimately, the media were

faulted for this "invalidated, variable, and shallow coverage" (Thompson, 2019; Kittler, Hobbs,

Volk, Kreps, & Bates, 2004).

Official and expert sources have influential power over the framing of issues and

coverage. For example, in the emerging stages of the 2009 swine flu outbreak, WHO's Director-

General Margaret Chan claimed, "all of humanity" was threatened by the virus and described it

as a "public health emergency of international concern." Chan's language shaped governments'

response to the outbreak and subsequentially shaped the media's coverage (Holland, Sweet,

Blood, & Fogarty, 2014). For example, the medical community's sense of urgency for

developing a swine flu vaccine was relayed in the media. Such regular updates from health

officials — whether at an international or local level — create a "vacuum of information," which

doesn't require journalists to search outside readily available experts for sources.

> "On the one hand, sources need the journalists to articulate their point of view and shape
>
> the story for a broad audience, while reporters rely on sources for a steady supply of
>
> information. … Such a symbiotic relationship allows sources to define events and
>
> highlight certain issues and topics over others. The greater the social power of the
>
> sources, the more likely is their success in defining the event or the importance of an
>
> issue" (Viswanath, et al., 2008).

However, conflicts of interest can arise from this vacuum because, as one interviewee responded

in a survey of journalists covering the 2009 pandemic, it is assumed that during a health crisis,

officials will present non-biased information and forgo vested interests, but they may have

ulterior motives like pushing a company's vaccine or treatment (Holland, Sweet, Blood, &

Fogarty, 2014). This survey concluded that a majority of journalists did not directly ask their

sources about potential conflicts of interest because the circumstances of the pandemic

heightened their reliance and trust in expert official sources, whom they believed were qualified

to comment on health issues. The swine flu pandemic may have acted to further sensitize

journalists to conflicts of interest as an issue worth investigating concerning government and

expert responses to public health issues. The surveyed journalists expressed healthy skepticism

of their sources' biases, congruent with standard journalistic practice (Holland, Sweet, Blood, &

Fogarty, 2014).

   During an information scarcity, journalists must adapt innovative sourcing strategies,

primarily reactionary, alternative, and the "flushing-out" sourcing strategy (Thompson, 2019).

Reactionary sourcing responds to credible and expert officials' agenda. This strategy provides

accurate information but may inadvertently promote elite agendas and overshadow diverse

perspectives. Alternative sourcing negates this problem by relying on the Internet or other media

for news information, but it may propagate misinformation. The Internet, particularly social

media, has an "alarming propensity for widespread dissemination of information, regardless of

accuracy" amid emerging infectious diseases (Laurent-Simpson & Lo, 2019). Namely, social

media peddled "fringe science narratives" about the Zika virus epidemic, which became

prevalent during late summer 2016 in the southern U.S. and is linked to brain abnormalities in

developing fetuses or infants (Laurent-Simpson & Lo, 2019). Social media posited that Zika was

nonhazardous, alleging it was a hoax orchestrated by high-level health agencies and

pharmaceutical companies to market vaccines. These conspiracy theories sowed distrust in the

mainstream media (Laurent-Simpson & Lo, 2019). The final strategy, the "flushing-out" method,

is when practitioners gather all available information — credible or otherwise — and call on

officials for clarification. Again, this sourcing strategy may spread falsities (Thompson, 2019).

Analysis of an Ebola outbreak in Zaire, now the Democratic Republic of Congo, in 1995

correlated experts' concerted alarms with spikes in disease coverage. Beginning in the late

1980s, scientists began sounding the alarm about an infectious disease with the potential to rise

to crisis proportions. Additionally, Hollywood captivated audiences with depictions of medical

disasters, like the 1995 film "Outbreak." Based on the 1994 nonfiction book "The Hot Zone," the

film follows infectious diseases experts as a dangerous airborne virus threatens civilization. The

influx of this content primed the media landscape for a real-life outbreak of Ebola — a rare viral

hemorrhagic fever that closely paralleled the terrifying aspects of Hollywood's imagination

(Ungar, Hot crises and media reassurance: a comparison of emerging diseases and Ebola Zaire,

1998). Coverage of the Ebola outbreak in Zaire almost always paired the disease with adjectives

like "killer" or "deadly" and was almost always accompanied by gruesome symptoms like

"liquefied organs, dissolving connective tissues, and profuse bleeding from every bodily orifice"

(Ungar, Hot crises and media reassurance: a comparison of emerging diseases and Ebola Zaire,

1998). Media's language — the use of words, descriptions, translations, and emotions — is a

form of media "hype" (Romano & Moran, 2017).

The number of news stories on Ebola dramatically increased and intensified during the

early days of the crisis. Most warned of potential spread outside of Zaire and reported that the

Western world's health systems were unprepared for a major disease outbreak, but many

reported conflicting statements like initially reporting the disease was airborne and later

recanting. In general, early coverage of Ebola incited fear, whereas later reports downplayed the

disease, highlighting the uncertainty and confusion among public health officials and journalists

(Ungar, Hot crises and media reassurance: a comparison of emerging diseases and Ebola Zaire, 1998; Ungar, Global Bird Flu Communication: Hot Crisis and Media Reassurance, 2008). Similar trends are evident in analyses of the spread of H5N1, or bird flu, from 2004 to 2005. At the height of the community spread between November and December of 2005, more than 100 articles mentioned the potential millions of casualties and the U.S.'s lack of preparedness for a widespread outbreak. President George W. Bush preemptively promoted a multibillion-dollar pandemic plan and quarantine strategy (Ungar, Global Bird Flu Communication: Hot Crisis and Media Reassurance, 2008). While fear of the bird flu declined globally, American media amplified the virus's threat. But, resembling the arch of Ebola coverage, articles gradually transitioned from fearmongering to reassurance and containment when the threat did not materialize (Ungar, Global Bird Flu Communication: Hot Crisis and Media Reassurance, 2008).

The sensationalism of health crises is a concern for practitioners. A common generalization in social and communication sciences is that the media fixate on "novel and dramatic issues" with the most social impact (Hilgartner & Bosk, 1988; Ungar, 2008). For example, a study of international natural disaster coverage in American newspapers found that the severity and intensity were the main determinants of whether a natural disaster warranted news coverage. Of the studied disasters, those with death tolls over 5,000 received the greatest amount of coverage for the longest period (Yan & Bissell, 2018). However, there is less precision in reporting public health crises and less correlation between casualties and coverage, according to researchers. New and emerging health hazards are overreported by the media, and the amount of media coverage inversely correlated with death tolls of SARS, bioterrorism, West Nile fever, and AIDS (Bomlitz & Brezis, 2008). Over 100,000 news stories covered SARS and bioterrorism, which killed fewer than a dozen people in the United States during 2003.

Comparatively, smoking and inactivity kill over 800,000 people each year but do not generate proportional media coverage (Bomlitz & Brezis, 2008). This pattern indicates the media's predilection for novel, "newsworthy" deaths.

Newsworthy "hype" sustains audiences' attention, but also creates anxiety and panic (Vasterman, Yzermans, & Dirkzwager, 2005). Ghana multimedia journalists were interviewed about the news production process during the Ebola 2,000-day outbreak between 2013 and 2016. When asked about their reporting's impact on audiences and news sensationalism, one television editor said: "From the beginning, the whole thing was about creating a huge fear and panic; the whole disease came with a quick death; the disease came with pictures." Similarly, a radio journalist responded: "It was how we reported it that led to the fear and panic, especially our local language media. … It was all kind of warning, alarmist" (Thompson, 2019). Some respondents said audience fear and panic may have been unintentional, whereas others said coverage only mirrored existing concerns (Thompson, 2019).

The sheer volume of coverage may lead to sensationalism and dramatization of risk, and extensive coverage may amplify risk (Dunwoody & Peters, 1992; Klemm, Das, & Hartmann, 2016). H1N1 influenza, or swine flu, pandemic in 2009 killed 12,469 people, according to U.S. estimates by the Centers for Disease Control and Prevention (CDC) (Centers for Disease Control and Prevention, 2019). Comparatively, the CDC also estimates that between 12,000 and 61,000 Americans die from seasonal influenza each year (Centers for Disease Control and Prevention, 2020). The emergence of swine flu in 2009 marked the first influenza pandemic since 1968, and media coverage echoed fears of a major impending crisis, uncertainty, and lack of control. Pompeu Fabra University's study of Spanish coverage of the swine flu pandemic revealed the press "provided overly alarmist and sensationalist information on the outbreak of the so-called

'swine flu virus' and contributed to spreading panic among the population" (Cortiñas-Rovira, Pont-Sorribes, & Alonso-Marcos, 2015). Similar research in the United Kingdom, Australia, and Argentina concluded: The media play an active role in creating a subject's discourse and must be cognizant of their power; the post-pandemic conflict between journalists and public officials deepened public skepticism of the media; and the media irresponsibly raised public anxiety surrounding swine flu (Nerlich & Koteyko, 2011; Hilton & Smith, 2010; Cortiñas-Rovira, Pont-Sorribes, & Alonso-Marcos, 2015). Ultimately, the Pompeu Fabra University study identified the following faults of swine flu coverage: 1) poor reporting practices and misinformation; 2) scaremongering and sensationalism; 3) lack of social responsibility and discourse of fear; 4) poorly selected sources; and 5) major discrepancies between editorial and news content (Cortiñas-Rovira, Pont-Sorribes, & Alonso-Marcos, 2015).

West Nile, a mosquito-borne virus prevalent in the early aughts, severely infected 149 people in North America and killed 18 from 1999-2001. The media played an important role in shaping the infectious disease's risk narrative and informing the public of reasonable precautions against the disease (Roche & Muskavitch, 2003). However, on average major newspapers reported the West Nile virus with a low degree of precision. Articles successfully presented information on virus symptoms but poorly covered risk-mitigation efforts like personal protective equipment and limiting exposure to potentially infected mosquitoes (Roche & Muskavitch, 2003). In general, these shortcomings and contextual imprecision greatly impeded the coverage's ineffectiveness:

> "The print media fail to do an adequate job of informing the public about relative risks associated with this emerging infectious disease. … [These results] point to the need for improvements in the ways in which the media report on the relative risks of health

threats, so as to be more precise and more comprehensive in their coverage" (Roche &

Muskavitch, 2003).

A shortcoming identified by Ghana journalists post-Ebola outbreak was a lack of

specialization or knowledge of health issues. Interviewees commented on the importance of

health reporting but stressed that it was not a priority in newsrooms and was usually relegated to

human interest or soft news coverage. In many newsrooms, the respondents continued, health

issues are lumped with gender and children's reporting (Thompson, 2019). A radio and

television journalist said:

> "When it comes to newsroom journalism itself, you don't find a lot of the health stories
>
> just being done. … When the red flags are raised, and a warning needs to go out to the
>
> public, then it happens … it usually centers on something sensational, but we are doing
>
> our best" (Thompson, 2019).

A profile of U.S. health reporters and editors revealed almost 70% of the respondents had at least

a bachelor's degree; 19% had a master's degree; 4.5% had a doctorate, including about 3% with

an M.D. The majority of the respondents graduated with degrees in journalism or

communication, whereas 8% reported "life science" college majors (Viswanath, et al., 2008).

Studies of reporters' educational specialization correlated higher education to sourcing; reporters

with a bachelor's degree or less were more likely to rely on press releases, local health care

providers, and patient advocacy organizations compared to those with a master's degree or

higher (Wallington, Blake, Taylor-Clark, & Viswanath, 2010). The authors of the study conclude

that this correlation may be because those with a master's degree or higher have more familiarity

with scientific journal articles and are more likely to utilize academic research in their reporting.

In the study of Ghana journalists, a radio personality said: "We don't have in-depth knowledge

about health issues because it is rare to find a journalist who has specialized in that area. So, we are unable to bring out the right issues and get them addressed" (Thompson, 2019). Journalists are often assigned to "beats" — narrowed coverage areas — based on typical coverage, gaps in coverage, or editorial considerations. The unpredictability of the news cycle encourages journalists to be generalists rather than specialists (Lowery, et al., 2007). This routinization may prevent journalists from having a consummate understanding of science or be able to accurately interpret scientific information (Thompson, 2019).

####    D.  COVID-19 & Media Coverage

As of publication, the COVID-19 (or SAVS-CoV-2) pandemic has surpassed more than one year in the United States. Coronavirus spreads by respiratory droplets when an infected person coughs, sneezes, or talks. According to the World Health Organization (WHO), most people infected with COVID-19 experience mild to moderate symptoms, ranging from fever, dry cough, sore throat, headache, fatigue, diarrhea, conjunctivitis (pink eye), and loss of taste or smell. Serious symptoms are more likely to develop in the elderly and those with underlying medical problems: These symptoms include difficulty breathing or shortness of breath; chest pain or pressure; and loss of speech or movement (World Health Organization, 2021). As of publication, over there have been over 144 million confirmed cases of COVID-19 worldwide and over 3 million deaths (World Health Organization, 2021).

In mid-December 2019, a slew of patients in Wuhan, China, reported flu-like symptoms, including fever, cough, and difficulty breathing. By late December, a Chinese lab sequenced the virus, doctors warned of the disease on social media, and a seafood market was linked to a dozen early cases (Associated Press, 2021). On Jan. 23, 2020, Wuhan was placed under a 76-day lockdown, and transportation from and about the province was canceled — "the most extreme

step taken up to that point against the coronavirus" (Associated Press, 2021; Taylor, 2020).

Around this time, more than 570 people had been infected across Taiwan, Japan, Thailand, South

Korea, and the United States, and there were 17 reported deaths (Taylor, 2020). However, later

research indicates that COVID-19 may have been present in some countries as early as weeks

before confirmed cases (Taylor, 2020).

Wuhan's lockdown was replicated by other regions and countries attempting to control

the spread of coronavirus. Italy was the first to lock down the entire country in early March, and

Spain, France, and many other European countries followed (Baccini & Brodeur, 2021). In Latin

America, Venezuela implemented a nationwide quarantine, and Peru and Ecuador entered

lockdowns. India, Iran, New Zealand, and Australia also notably followed suit (Taylor, 2020;

Kaplan, Frias, & McFall-Johnsen, 2020). Many countries entered a second — or even third

— wave lockdown amid rising cases and new, more infectious variants (Kottasová, 2021).

The first decisive move by the United States to contain the spread of COVID-19 took

place in late January when former President Donald Trump restricted travel from China. By this

date — Jan. 31, 2020 — 213 people had died from coronavirus and nearly 10,000 were infected

as cases surged worldwide. Readily, the Centers for Disease Control and Prevention advised

people to wear masks in public; social distance about 6 feet from others; avoid mass gatherings

or crowds; and other hygienic protocols to limit the spread of the virus (Centers for Disease

Control and Prevention, 2021). The United States reported its first confirmed death nearly a

month later and eventually led the world in confirmed cases as infection levels sharply rose over

the summer. (Taylor, 2020).

The U.S. response to COVID-19 has been characterized as lacking strong federal

leadership and inefficient localized action (Haffajee & Mello, 2020). States are leading the fight

against coronavirus but have exercised their executive powers unevenly: Some states and municipalities closed nonessential businesses, imposed stay-at-home orders, or mask mandates, while others did not make such declarations (Haffajee & Mello, 2020). Scholars write:

"Many jurisdictions continue to permit widespread noncompliance with CDC-issued social-distancing recommendations (e.g., no gatherings of more than 10 people), as evidenced by crowded spring-break beaches, discretionary travel, open schools and day care centers, busy stores selling nonessential goods, contact sports among young adults, and children congregating in public parks. This is the dark side of federalism: it encourages a patchwork response to epidemics" (Haffajee & Mello, 2020).

COVID-19 is a politicized issue in the current political climate. Studies indicate that states' coronavirus response is indicative of this. In the case of the U.S., and across the globe, politics heavily dictated policy. That policy — or lack thereof — directly affected the lives, health, and well-being of everyday people under the COVID-19 pandemic. Politicking and political in-fighting endangered, and continue to endanger, lives. For example, Democratic governors are more likely to execute stay-at-home orders than their Republican counterparts. Additionally, governors who are term-limited — meaning they cannot be reelected — are also more likely to issue stay-at-home orders (Baccini & Brodeur, 2021). Politics are "as usual" despite the "unusual" times, according to researchers (Baccini & Brodeur, 2021).

In addition to the public health crisis coronavirus poses, it has also severely impacted the U.S. economy and unemployment. Throughout the pandemic, U.S. unemployment rates have hit higher than those paralleled during the 2008 Great Recession (Rocco, Béland, & Waddan, 2020). Additionally, the Congressional Budget Office projected a 38% decline in gross domestic product compared to 2019, and state and city governments are projected to experience a multi-

hundred-billion-dollar revenue shortfall between 2020 and 2022 (Baccini & Brodeur, 2021; Congressional Budget Office, 2020). Much of this decline is attributed to a drop in "personal consumption expenditures." Because of health risks and shelter-in-place mandates, people spent less on goods and services like hotels, transportation, and restaurants (Thorbecke, 2020). With these haunting projections, officials face extreme pressure to "reopen" economies despite rising case numbers and fatalities. The Trump administration emphasized this "return to normalcy" (Baccini & Brodeur, 2021).

Congress intervened with several economic stimulation packages enacted in March 2020. The Coronavirus Aid, Relief, and Economic Security Act (CARES) provided loans to small businesses for wages as part of the Paycheck Protection Program; expanded unemployment benefits; and provided qualified individuals with a stimulus. Taxpayers earning up to $75,000 (or $150,000 jointly) were awarded $1,200 per adult and $500 per dependent. CARES payments stimulated spending but did not increase employment rates among laid-off service workers (Thorbecke, 2020). A second economic relief package was passed in December 2020 for $600 stimulus payments — "the first significant infusion of federal dollars into the economy since April" of that year (Cochrane, 2020). A third relief package passed in March 2021 piped billions of dollars into schools and small businesses, fortified unemployment benefits, and delivered $1,400 direct stimulus payments to qualifying individuals (Cochrane & Broadwater, The House moves to finalize the next coronavirus stimulus package by end of next week, 2021).

The coronavirus pandemic has revealed major faults in the United States' response. As authors of one of the first comprehensive analysis of media coverage of COVID-19 wrote:

"The uneven response within the U.S., delays and ongoing challenges with testing, dire shortages of personal protective equipment for hospital and other essential workers,

devastating economic impacts, and the stark reality that the most marginalized are, once

again, at greatest risk for severe and critical cases, collectively underscore the fact that

investment in both public health infrastructure and the social determinants of health at the

national level would comprise the strongest response to addressing future outbreaks. In

the meantime, prevention, mitigation, and suppression rely, to no small extent, on the

collective impacts of individual actions" (Basch, et al., 2020).

Collective individual action is a core health-sustaining behavior promoted by top public

health officials and institutions. The Centers for Disease Control and Prevention and the World

Health Organization — which the Trump administration pulled out of in the summer of 2020

— advised the following preventative measures: minimizing contact with others; frequent hand

washing; covering coughs or sneezing; disinfecting high-trafficked areas; and seeking medical

care early in symptom progression. In April 2020, major health organizations also began

advising the public to wear facemasks in public settings as an additional precaution (Basch, et

al., 2020). Yet, for collective individual action to be effective, it must be reliably communicated

to the public, balanced by a "transparent, accurate assessment of risks with evidence-based,

solution-focused messages" (Basch, et al., 2020). However, as evidenced by previous public

health crises, coverage frequently lacks important information or context portrayed by untrained

or unspecialized practitioners and is often sensationalized or commercialized. Scholars describe

this faulty translation between scientists and journalists as the "research-to-reporting gap"

(Hoffman & Justicz, 2016). A broader, perpetual "research-to-action gap" also exists: "To those

people who rely on the media as a primary source of health information, the health professionals

who provide treatment, the policymakers who direct government action, and the public who

make personal health decisions every day this gap is potentially harmful" (Hoffman & Justicz, 2016).

News and media consumption has increased during the COVID-19 pandemic, thus calling for a renewed sense of journalistic integrity and urgency. Citizens who self-identified as not engaging with current or public affairs reported increased attention to the news (Casero-Ripollés, 2020). Of least connected Americans before the pandemic, those who positively assessed media coverage of COVID-19 rose 12 percentage points. Generally, the percentage of Americans who value the media rose 4% from pre-pandemic assessments (Casero-Ripollés, 2020). Additionally, television journalism regained some of its audience and authority in reporting the health crisis, despite its overall decline in relevancy as a news source (Casero-Ripollés, 2020; Gidget Estella, 2020). This data supports the claim that during crises that pose a "risk to human life," people are more attuned to the day's news (Casero-Ripollés, 2020).

Given that people base their behavior and health decisions on mass media reports, the shortcomings in emerging disease coverage constitute a public health threat (Basch, et al., 2020). Pregnant women's risk perception increased after being exposed to prevention materials from the Centers for Disease Control and Prevention amid outbreaks of Zika virus, which greatly affects fetal development (Earle-Richardson, Prue, Turay, & Thomas, 2018). In contrast, residents of Hong Kong perceived lower levels of risk associated with the then-novel H1N1 pandemic and therefore implemented fewer hygiene measures (Cowling, et al., 2010). In a survey of Chinese medical students, exposure to television news about the coronavirus positively correlated to the perceived severity of the disease, its high transmissibility, and ability to self-determine appropriate preventative measures against the virus (Lin, Hu, Alias, & Ping Wong, 2020; Scopelliti, Giuseppina Pacilli, & Aquino, 2021). These examples indicate a correlation between

risk perception and active response to an emerging disease. Groups who perceive COVID-19 as risky are more likely to promote health-sustaining behavior, whereas groups who perceive COVID-19 as low risk are less likely to do so. The latter group is a prime target for the media's public health education (He, Chen, Kong, & Liu, 2021).

Initial television news coverage of the coronavirus ineffectively informed the public of the evolving pandemic and elevated anxiety surrounding the virus by prominently focusing on the disease's mortality rates and "dire outcomes," rather than promoting health-sustaining behavior and coping strategies. The media are credited with spreading fear appeals amid the coronavirus pandemic. Appeals to fear are a form of persuasive communication that emphasizes danger and negative consequences. Eliciting fear is dependent on an audience's perceived level of threat and danger (Scopelliti, Giuseppina Pacilli, & Aquino, 2021). Similar to the observed effect of graphic depictions of Ebola Zaire, such media may elicit negative emotions or reactions in viewers like anger, fear, or sadness, which may manifest in overbuying essential goods, microaggressions, or acts of racism (Basch, et al., 2020). "Stressful content" that fixated on COVID-19's severity or hospital reports in China warranted more negative or depressive audience effects, whereas less stressful content — like heroic acts, expert speeches, and coverage of preventative measures — generated more positive audience reactions (Chao, Xue, Liu, Yang, & Hall, 2020). Repeated exposure to coverage of community crises is linked to heightened psychological distress, like that experienced after the 9/11 terrorist attacks, the Boston Marathon Bombings, and Ebola Zaire outbreaks (Garfin, Cohen Silver, & Holman, 2020; Holman, Garfin, & Cohen Silver, 2014; Yao, 2020). Surveyed German populations during the country's nationwide lockdown described symptoms of depression and anxiety associated with high levels of media exposure (Bendau, et al., 2021). In China, adults' median COVID-19 media exposure

per day was four hours. Standardized psychological distress measurements (Patient Health

Questionnaire and General Anxiety Disorder Scale) increased with raised daily media exposure,

indicating a "dose-response relationship between media exposure to information about COVID-

19 and psychological distress in the healthy population" (Yao, 2020).

During the early uncertainty of the coronavirus pandemic, many consumers ambushed

grocery stores, stocking up on toilet paper, hand sanitizer, and other household cleaners.

Additionally, Trump publicly referred to the virus as the "Chinese virus," a racist and

xenophobic comment directed at Wuhan, China — where COVID-19 originated. Top officials

parroted Trump's comment, referring to the coronavirus as the "Wuhan virus" and "Kung flu,"

while others — like Texas Sen. John Cornyn — directly "blamed" China for the spread of

COVID-19 because it has a "culture where people eat bats and snakes and dogs and things like

that" (Gover, Harper, & Langton, 2020; Wu, 2020; Vazquez, 2020). Racist attacks and

harassment of Asian Americans surged in mid-March before the president's statement, but his

remarks corresponded with an increase in hate crimes and violence (Gover, Harper, & Langton,

2020). To curb maladaptive behavior, researchers suggest media reframe coverage to promote

emotional resilience, tolerance, and encourage positive health-sustaining habits (Basch, et al.,

2020). While a health crisis should prompt journalists to vet sources' credibility, in the absence

of such sources, it is still possible for the media to reinforce basic health practices, more so than

observed in early pandemic coverage (Barthel, 2019). For example, of over 400 U.S. news

videos, 17% mentioned hand hygiene; 22.6% said to avoid close contact with those who are sick

and 20% said to stay home when ill; 2.6% advised coughing or blowing into a tissue or elbow;

and 8% suggested disinfecting surfaces regularly (Basch, et al., 2020).

Despite surpassing the anniversary of the first nationwide COVID-19 lockdowns, coverage of the pandemic has significantly waned since its precipitous spike in coverage from February to March 2020 (Pearman, et al., 2021). This divergence in media coverage of the pandemic among the world's 102 highest-circulation newspapers can be attributed to many factors, namely "COVID fatigue" — a sense of exhaustion from the pandemic. Additionally, throughout the pandemic, coverage has been routinely displaced for other prominent events like the U.S. presidential elections and mass social justice outcry (Pearman, et al., 2021). The context of the pandemic tends to be lost when discussing these important historical moments, coupled with growing strains on the journalism industry.

IV.     **Research Questions & Methodology**

This qualitative exploration of secondary and descriptive data posited to answer the following research questions:

1.  What is media's role in an emerging risk society, and how can they better adapt to fit the needs of a risk society?

2.  How have previous health crises been covered by media and to what degree of precision?

3.  How can the media better equip themselves to handle future crises, and what can be learned from past coverage and remedied by future coverage?

The bulk of this research analyzed existing data and case studies of infectious disease coverage and media effects using a historical qualitative study design. The historical qualitative model examined past public health crises to better understand the present pandemic media landscape and hypothesize potential future effects. The model helped provide a holistic picture of the research questions and incorporated a variety of sources. Sources were selected from various academic journals and article databases based on historical context, themes in the literature, and their bearing on informing policy and practice. The utilization of this common social science methodology best explores the complexity of the research questions and goals (Snyder, 2019).

The literature review employed several approaches, including systematic review and meta-analysis. Combined, these approaches helped paint a broad view of the body of relevant research. The synthesis of secondary research findings allowed for media practices and health news coverage to be evaluated at a meta-level through various modernity theoretical frameworks. The meta-analysis followed guidelines set forth by the Berkeley Systematic Reviews Group at the University of California: 1) formulate focus questions; 2) comprehensive

search of studies; 3) assessment of students and data extraction; 4) synthesis of results; 5)

interpretation of results and application (Davis, Mengersen, Bennett, & Mazerolle, 2014).

This thesis was inspired by several seminal works focused on media coverage of

pandemics while utilizing risk society as a theoretical framework. Po-Lin Pan and Juan Meng's

"Media Frames across Stages of Health Crisis: A Crisis Management Approach to News

Coverage of Flu Pandemic" demonstrated a causal relationship between risk society, media

processes, and public health crises. The paper opens with an overview of risk society theory, and

the article's breadth focuses on media frames at different points of flu pandemics, examining

how the news delivers health and risk information. The authors also stress the cooperation and

interdisciplinary work needed between journalists and crisis managers to effectively

communicate health crises — a crux of this thesis further explored by Shari R. Veil's "Clearing

the Air: Journalists and Emergency Managers Discuss Disaster Response" and K. Viswanath et

al.'s "Occupational Practices and the Making of Health News: A National Survey of U.S. Health

and Medical Science Journalists." These articles also prompted explorations into sensationalist

health news coverage, robustly analyzed by Steven J. Hoffman and Victoria Justicz. Finally,

studies by Corey H. Basch et al., Sergi Cortiñas-Rovira et al., and Sheldon Ungar helped

contextualize the media's role in reporting pandemics with qualitative interviews of journalists.

## V.       Discussion & Recommendations

### A.   *Sourcing*

Coverage of the coronavirus pandemic reflects many of the journalistic faults of previous pandemics — sourcing, imprecise language or sensationalism, and lack of scientific knowledge or understanding. A recent interview with five mainstream journalists, covering science, global health, biotechnology, and pharmaceuticals revealed many challenges facing media practitioners amid the COVID-19 pandemic (Mandavilli, Hecketsweiler, Nagarajan, Righetti, & Khan, 2021). When asked about sourcing, New York Times science and global health reporter Apoorva Mandavilli said: "My go-to sources are all people who are not just good at knowing what they know, but also very honest and candid and careful about saying what they don't know — what the field as a whole doesn't know." French Le Monde health, pharmacy, and biotechnology reporter Chloé Hecketsweiler followed: "It took a while before we understood that some experts who on paper were very reliable, neutral voices, were in fact not so neutral and had in mind something else — a specific interest or political beliefs influencing what they're saying. Some doctors, for instance, have different opinions about the strategy to deal with COVID." These comments provide insight into the inherent skepticism journalists employ when interacting with sources — a legacy of previous pandemics, namely swine flu (Holland, Sweet, Blood, & Fogarty, 2014).

The swine flu pandemic may have further sensitized journalists to potential conflicts of interest and risk society's loss of faith in institutions (Holland, Sweet, Blood, & Fogarty, 2014). For example, the Trump administration touted falsities like drinking disinfectants or lighting the inside of the body to treat coronavirus — claims quickly rejected by health experts (Rogers, Hauser, Yuhas, & Haberman, 2020). Scientists may also become complicit in miscommunication

and benefit from sensationalist journalistic coverage (Ransohoff & Ransohoff, 2001). In India,

scientists created disinfectant tunnels in hospitals to allegedly decontaminant people with

COVID — a system that "doesn't make much sense" considering the virus sheds through

respiratory droplets, according to Indian public health journalist Rema Nagarajan (Mandavilli,

Hecketsweiler, Nagarajan, Righetti, & Khan, 2021). In France, there was controversy

surrounding the efficacy of hydroxychloroquine — a drug used to treat lupus and rheumatoid

arthritis — but ultimately the French government revoked authorization of the drug for COVID-

19 patients, and the World Health Organization suspended the drug's use in a global trial. Trump

also touted hydroxychloroquine as a COVID treatment (Cobbe, 2020). These instances of

disinformation perpetrated by high-level, trusted scientists and officials are indicative of the keen

eye journalists must have when attempting to accrue reliable sources. Additionally, in a crisis

scenario, it is important for journalists to seek out relevant authorities with expertise on a subject,

New York Times' Mandavilli noted: "It's really useful, at a time like this, to be skeptical of

everything and everybody and to really examine every statement" (Mandavilli, Hecketsweiler,

Nagarajan, Righetti, & Khan, 2021). Communication scholars reiterated this point, stressing

journalists should work to be more suspicious, query motivations, and look more closely at who

is making decisions and their industry connections (Holland, Sweet, Blood, & Fogarty, 2014).

Traditional media practices, specifically the idea of "balanced reporting" and seeking out

sources from "both sides" of an issue, distract from imperative public health information.

Journalistic norms tend to view stories through a filter of balanced reporting, giving space to

different parties with a stake in relevant issues. Simplistically, a journalist working on a story

about Earth may interview a scientist who has expert knowledge of Earth's oblate spheroid

shape. The journalist may also interview a "Flat Earth" activist to fulfill a need for a counter

opinion, regardless of its falsity. This creates a false balance, giving undue attention to a marginal opinion with little-to-no scientific backing, and it peddles coverage "dominated by voices representing the tail ends of opinion" (Nisbet & Fahy, 2015). False balance, however, differs from well-researched and factual impartial journalism (Grimes, 2016). A tangible example of false balance in journalism is coverage of climate change. Anthropogenic climate change is a near scientific consensus, however, articles on the subject are often present arguments from climate change denial groups despite their unfounded claims (Brüggemann & Engesser, 2016; Boykoff & Boykoff, 2004). False balance in journalistic practice gives a disproportionate voice to contrarians and creates a fallacy of equivalence between the two sides (Brüggemann & Engesser, 2016). Platforming the denial of a widely accepted scientific fact, like the existence of anthropogenic climate change, perpetuates disinformation. In the era of coronavirus, coverage of COVID deniers, anti-maskers, or anti-vaxxers — groups that radically dismiss mainstream scientific evidence of the pandemic and the efficacy of masks and vaccines — legitimizes these baseless movements and poses a serious public health threat in the effort to curb coronavirus cases.

   A.  *Language, Sensationalism & Framing*

   Language precision, framing, and avoiding sensationalism are imperative to health crisis coverage. In an interview, New York Times science and global health reporter Apoorva Mandavilli stressed the challenge of reporting on sensitive and emotionally tumultuous topics: "This is a pandemic that has put people very much on edge, and so it's been extremely difficult to report on things that really push people's emotional buttons" (Mandavilli, Hecketsweiler, Nagarajan, Righetti, & Khan, 2021). Audience emotions are inherently tied to media messaging, and those emotions predict behavior, beliefs, and attitudes. Amid an unfolding pandemic,

audiences may absorb and distribute health information differently depending on how they

process emotions (Lu, et al., 2021). For example, a COVID-era study about the correlation

between audience emotions and trust in information sources, organizations with the highest

levels of trust (health professionals, government agencies, and academic institutions) led

audiences to believe sharing information on the pandemic would increase "positive outcomes,"

disease awareness, and encourage health-promoting behavior (Lu, et al., 2021). Contrastingly,

less influential sources (defined in this study as news media, peers, and social media) triggered

negative emotions like anxiety, fear, and anger — emotions that tend to spread quickly among

social circles and elicit feelings of helplessness and lack of control amid health crises (Lu, et al.,

2021).

Given this correlation, readers need to be more attuned to their perception, circulation,

and repetition of negatively charged information. Consequentially, the media must preemptively

act to mediate the spread of this psychologically detrimental information, primarily through

identifying and eradicating sensationalism in health and medical reporting. Sensationalism in

health journalism involves the distortion of reporting to generate heightened emotions like false

hopes or unwarranted fears (Ransohoff & Ransohoff, 2001). Sensationalism is historically

present in news literature as early as the 16th and 17th centuries in reference to cultural taboos,

natural and manmade disasters, and unexplained phenomena, reflecting themes of good and evil

or the unknown (Slattery, 1994). In the modern media landscape, sensationalism is often used to

compete for audience attention, which translates to revenue for newspapers and online media

sources (Sowden, Borgstrom, & Selman, 2021). However, a sensationalist medical report can

invoke a national frenzy or panic, as evidenced by panic-buying early in the pandemic, for

example.

Inaccurate or sensationalist language was often employed by British media to report on bereavement and death due to COVID-19, according to a 2021 study. The study highlighted the misuse of the word "ban" — a blanket term which did not adequately capture the nuance of public health protocols and restrictions — to describe families' inability to see loved ones in hospitals or hold funerals for the decreased, stoking anxiety and a sense of disempowerment (Sowden, Borgstrom, & Selman, 2021). Other overhyped language used to describe the pandemic among British media included fixing it into a "war-narrative," referring to the virus as "an invisible enemy" or "this generation's Pearl Harbor" (Sowden, Borgstrom, & Selman, 2021). U.S. media often paced the pandemic's death toll with the Vietnam War and World War I in an attempt to contextualize the fatalities (Jenkins, 2020). An edition of Holman W. Jenkins Jr.'s twice-weekly "Business World" editorial in The Wall Street Journal poignantly said:

> "[COVID-19] has nothing to do with the Vietnam War. It is nothing like World War I. It's not even like heart disease, which kills an estimated 655,000 Americans a year and will likely continue doing so for the foreseeable future. [COVID-19] is a completely different phenomenon of its own. Why not say so? (Jenkins, 2020)"

Much of this language can be attributed to the novelty of the pandemic. The "uncontrollable and unpredictable nature of the virus" was echoed by phrasing such as: once seemingly healthy people "struck down" by COVID; the death toll "mounted" or "surged;" families afflicted by COVID should "stay strong" (Sowden, Borgstrom, & Selman, 2021). As shown in Figure 3, headlines in the United Kingdom read:

*Figure 3: Notable U.K. newspaper headlines[3]*



Jenkin's column offers a stern warning about this adverse, emotionally fraught reporting:

> "A rule of thumb for journalists: When you find yourself trying to peddle emotion, stop.
>
> When you catch yourself selecting facts and claims and metaphors for their sentimental
>
> wallop rather than intellectual merit, rethink. The public needs information and context,
>
> not help milking its tear ducts" (Jenkins, 2020).

Solutions to identifying and eradicating sensationalism in news reporting may seem rudimentary

or fundamental but they are often lost in the messy and convoluted work of reporting. Poynter

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[3] (Sowden, Borgstrom, & Selman, 2021)
Top: *https://www.mirror.co.uk/news/uk-news/nephew-warns-everyone-take-coronavirus-21746998*
Middle Left: *https://www.dailymail.co.uk/news/article-8130617/How-coronavirus-victims-dying-quarantine.html*
Middle Right: *https://www.thesun.co.uk/news/11384930/nhs-staff-beg-ppe-health-workers-die-coronavirus/*
Bottom: *https://www.telegraph.co.uk/global-health/science-and-disease/coronavirus-uk-news-cases-deaths-lockdown-extended-boris-johnson/*

Institute, a global journalism resource and think-tank, offered tips to de-sensationalize stories. It advised sticking to verifiable, factual information; remaining skeptical of sources; amassing all necessary or relevant facts; and ensuring the story is told from a "bird's-eye view" perspective, rather than that of a jaded reporter (Winegarner, 2013). From the journalists' vantage point, sensationalism can be rooted out by "painting a vivid picture with solid information" (Jenkins, 2020).

In addition to charged prose, a common trope of COVID media coverage is detailed daily death toll counts. While an important figure to track for epidemiological, governmental, and public interests, it tends to initially increase pandemic anxiety and ultimately desensitize audiences (Sowden, Borgstrom, & Selman, 2021). Jenkin's column continued, disavowing the media's hyper fixation on coronavirus death toll milestones: "Another hint for journalists: If you find yourself straining for ways to sensationalize a claim that listeners have already heard 50 times, maybe just drop it and move on" (Jenkins, 2020). However, the crux of Jenkin's argument — the call for an erasure of marking the pandemic's eerie milestones, which at one point he calls "meaningless" — should not be holistically adopted by media practitioners. Reporting fatalities is in the public interest, but it must not overshadow evolving health news or obstruct the free flow of information.

Health crisis coverage needs to shift its vocabulary and framing away from sensationalism and toward solution-based reporting. Solution-based reporting entails presenting readers with consistent, poignant health-sustaining behavior to reduce the risk of transmission, infection, or symptoms. In the era of COVID-19, such behavior includes hand hygiene; wearing a facemask for the protection of others; disinfecting high-touch surfaces; and avoiding high-risk scenarios, like mass gatherings or indoor events, among others (Basch, et al., 2020). Perceived

risk of COVID-19 is linked to practice and promotion of health-sustaining behavior. Groups who associate the virus as risky are more likely to adopt such behavior compared to those who perceive COVID-19 as low risk (He, Chen, Kong, & Liu, 2021). Repetition of prescribed risk-reducing behavior — advised by leading health experts and organizations like the Centers for Disease Control and Prevention and the World Health Organization — may prime the latter group for public health education. Frank Luntz, a Republican political pollster and pundit, hosted a focus group of vaccine-hesitant and anti-vaxxers to dispel myths about the three, U.S. Food and Drug Administration authorized COVID-19 vaccines available to the American public: Pfizer BioNTech, Moderna, Janssen (colloquially called the Johnson & Johnson) COVID-19 Vaccines (U.S. Food and Drug Administration, 2021). Luntz began the focus group by asking the participants questions about their hesitancy to get vaccinated, which prompted conspiracy theories claiming COVID-19 is a political smokescreen created by Democrats to sway the 2020 presidential election, questions of the efficacy of the vaccines, and general misinformation about the virus's severity (Luntz, 2021). At the end of the focus group, Luntz brought on former director of the Centers for Disease Control and Prevention Dr. Tom Frieden, who provided the following facts to the focus group:

a. "If you get infected with the virus, it will go all over your body and stay there for at least a week and be much more likely to cause you long-term problems than the vaccine.

b. If you get the vaccine, it will prime your immune system, but then the vaccine is gone — it will not be with you anymore.

c. More than 95% of the doctors who have been offered this vaccine have gotten it as soon as they can.

      d.   The more we vaccinate, the faster we can get back to growing our economy

           and getting jobs, and;

      e.   If people get vaccinated, we are going to save at least 100,000 lives of

           Americans who would otherwise be killed by COVID" (Luntz, 2021).

When asked how many found those facts impactful, the majority of the participants agreed,

illustrating that the framing and presentation of health information greatly influence audiences'

perception — especially those with fringe or extreme positions (Luntz, 2021).

    *B.  Specialization & Training*

    Issues with sourcing and sensationalism in medical reporting have long been written off

as "miscommunication" between highly specialized scientists and journalists (Ransohoff &

Ransohoff, 2001). Regardless of the validity of that generalization, many of the problems related

to medical reporting can be resolved with adequate journalistic training. The pandemic has

revealed many faults in journalism training, and newsrooms must adjust according. A simple

Google search for "COVID-19 journalism training" yields 194 million results, including online

courses offered by top journalism hubs like the Knight Center for Journalism in collaboration

with the United Nations and the World Health Organization. A 2016 survey of Australian media

practitioners revealed strong support for extra health and medical news training for those with no

science background. The majority of respondents considered this training necessary (Furlan,

2016). A minority of respondents argued that elementary journalism training — including news

writing, interviewing, and researching — was sufficient to be "able to communicate with highly

qualified sources in any field" and "tackle even the most complex subjects" (Furlan, 2016).

    The United States suffers from a similar paradigm. As of 2008, only 3% of U.S.

journalists reporting having an undergraduate major in hard sciences (Sachsman, Simon, &

Meyer Valenti, 2008). While it is unrealistic to require that every health or medical reporter must receive hard science and mass communication higher education, journalism schools should provide a more flexible and relevant curriculum to students. For example, journalism schools do not equip students with adequate statistical reasoning, which severely hinders journalists' ability to report on and engage with scientific materials on a variety of subjects. Only 25% of surveyed journalism school administrators between 1997–2008 believed their students received sufficient education in statistical reasoning (Dunwoody & Griffin, Statistical Reasoning in Journalism Education, 2013). Without this necessary training, media practitioners enter the field unprepared to tackle complex science-based stories, which may lead to the perpetuation of misinformation (Menezes, 2018). Science journalism requires critical reflection and multi-literacy — a duality few practitioners possess (Gidget Estella, 2020). Poorly informed reporting creates public confusion and panic — emotions that should be assuaged during health crises (Valentine, 2005; Menezes, 2018). In an editorial, former director for the Association of Health Care Journalists, which provides educational resources for health journalists, Melinda Voss said:

> "Health journalists — unlike education or city hall reporters — need skills and knowledge not easily acquired on the job. They should know, for example, the strengths and weaknesses of clinical trials vs. case control studies, the difference between relative risk and absolute risk, and how to interpret a statistical significance or correlation score, just to name a few. Without such knowledge, journalists can wreak havoc or, at the very least, confusion" (Voss, 2003).

Better educating journalists on pandemic coverage is three-fold: First, higher education journalism institutions should offer more science and math-based courses to students. Students should be well-versed in statistics, as well as other elementary math that may help them in the

field. Science journalism classes should also be offered to students at accredited journalism institutions. In a risk society, natural and manmade disasters, widespread diseases, and climate change effects will become more routine, thus classes should prepare students for covering ecological catastrophes. Secondly, while specialized higher education is beneficial to science journalists, exclusively hiring based on scientific aptitude is gatekeeping and may prevent qualified reporters from entering the field. Instead, media companies should offer professional development courses or education vouchers to reporters and editors. Editors may be just as culpable in publishing incorrect health information because of a lack of knowledge on the subject. Editors should be hypervigilant for errors, omissions, and context of stories (Voss, 2003). Given the double-edged sword of media company consolidation, training employees en masse may be easier and more cost-effective. Finally, scientists should receive media training. Academics' scientific jargon can be difficult to translate for a news outlet's lay audience, which may sway journalists to rely heavily on politicians, activist groups, or community members, who do not have the consummate understanding of experts, for sourcing (Menezes, 2018). Ultimately, training for journalists and cooperation with their academic counterparts may seriously improve health and medical news coverage.

### C. The Future of Journalism in Risk Society

The emergence of a risk society will usher a shift in journalism's future. Not only will journalism's importance exponentially increase as global risks and dangers become more prevalent, but how journalists engage with their profession will also change. Journalism is a resilient profession, able to adapt to the constantly evolving media landscape. The social and political problems that tax journalism ultimately help it better adjust to the needs of its audience, a concept known as the "test of capacity." Historical trends indicate that major waves in history

have thickened journalism's metaphorical skin, like the recent global rise of populism or authoritarianism, which ceaselessly attacks and vilifies journalists (Nerone, 2015; Kunelius, 2018). For example, reporting on climate change has forced journalists to evaluate the topic from a new perspective. "Journalism is in the business of storms, floods, summits and elections, whereas climate change is about trend, trajectories, predictions and probabilities of models," forcing practitioners to alter their reporting and position individual severe weather events in the broader, systemic context of anthropogenic climate change (Kunelius, 2018). Similarly, the pandemic has forever changed health news coverage and challenges long-held professional conventions, especially amid a growing campaign to delegitimize journalism and sow disinformation (Gidget Estella, 2020). As pandemics become more frequent — congruent with risk society theory — these factors will become increasingly apparent.

Journalists must also recognize their status in an emerging risk society. Conscientization will allow news workers to identify and address the shortcomings in their reporting by reflecting on coverage of past pandemics and thus achieving a "deeper awareness of their sociocultural reality" (Thompson, 2019; Freire, 1973).

"Conscientization here would involve journalists and editors … developing a critical consciousness about how the media organization operates and about its routines, reflecting on the impacts and implications, and taking action to address them by devising strategies for speaking up and pushing for changes from systemic and structural power holders" (Thompson, 2019).

Risk society theory and epidemiological hypotheses posit that pandemics will become a new normal via globalization and industrialization. The gravity of this future rests on the public's moral arbiters, prominently, the media and its emphasis on health news coverage. Media

practitioners should reflect on the outlined recommendations and confront areas of improvement

for future work. Risk society's unfortunate reality will challenge institutional control and disaster

management, and the next public health crisis will truly test the media's aptitude for risk

reporting.

**VI.        Limitations, Future Research & My Experience**

This thesis is representative of only a slim portion of risk society, media, and pandemic theory. The breadth of these subjects could not be fully gauged due to limited resources and longitudinal effects. As of publication, COVID-19 is still an active pandemic, and the United States is experiencing a potential fourth-wave surge in new infections as vaccination rates ramp up and new variants of the virus emerge worldwide (Thebault, 2021). Because of the evolving nature of the pandemic, this study was only able to capture a brief overview of the media's role in COVID-19 coverage — a role that may progress over the latter stages of the pandemic. Additionally, given the topic's immediacy and topicality, there were few peer-reviewed academic sources to contribute to this study's qualitative exploration of secondary and descriptive data. Additionally, though this thesis employed a historical model of qualitative analysis, few primary sources were utilized, aside from select interviews, oral recordings, and documents. These sources could have been better incorporated.

Further research post-pandemic should reflect more on the media's wholesale influence on COVID-19 public perception and efficacy. More quantitative studies synthesizing prevalent language or news frames may better indicate trends in pandemic coverage. Future qualitative data may also explore journalists' experience during the pandemic. Journalists likely experienced first-hand distress from covering the pandemic while also living through it — a collective experience linked to widespread psychological distress. Journalists also likely experienced this paradigm shift while juggling industry changes like "work-from-home" and furlough policies (Hare, 2021). These stressors on the profession may be better examined in a future rearview. While an unfortunate reality, the next public health crisis will ultimately test the theories and

recommendations laid out in this thesis and demonstrate the potency of risk consciousness in journalism.

This thesis is the largest and most intense flex of my academic muscles to date. It is the most in-depth and extensive research I have conducted in my college career. As a journalism student and fanatic, evaluating journalism practices from a researcher's perspective, rather than a practitioner's, was introspective. I walked away from this thesis with a consummate understanding of the industry's stressors. But I also gained a newfound appreciation and understanding for academic literature and scientific writing — a specialization I stressed heavily in my recommendations for future coverage. I hope to use these research skills in the field.

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