Toilet Paper Thrones and Heated Tweets: Applying Moral Panic and Social Network Theory to Responses Over Panic Buying during COVID-19

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Abstract— **Social networks string everyone together. In the world affected by the COVID-19 pandemic, residents left their houses less often and maintained their connections online. Preparing for longer periods at home, some customers stockpiled supplies, the most discussed of which being toilet paper. When internet users came across videos of empty store shelves and people boasting about the amount of toilet paper they obtained, public contempt exploded over these supposed "panicked buyers." From February to May of 2020, patterns of reaction against panic buying matched the description of a moral panic as presented by sociologist Stanley Cohen. The media is an agent of contagions in a social network. During COVID-19, news headlines often detailed shortages of supplies around the world. Meanwhile, social media became a platform for videos of stockpiling consumers, like those who built thrones out of toilet paper boxes. These behaviors from the media further escalated a small issue of temporary toilet paper shortage to almost a national emergency, while drawing attention away from shortages of crucial medical supplies and test kits.**

Index Terms—**Panic buying, media, demonization, moral panic, social network.**

I. INTRODUCTION

In November 2019, the first cases of COVID-19 broke out [1]. As of July 2020, cases have surged to over ten million worldwide and more than two million in the US [2], [3]. Amid the rising infection rate, many countries issued stay-at-home orders. Schools and community spaces closed. These safety measures have contributed to some unintended consequences, including increases in household purchasing, which have been discussed as "panic buying." In countries like the US and the UK, customers rushed to order months' worth of food and toiletries. In China, the shortage of face masks put front-line nurses at risk [4]. In the US, concerns mounted over the shortages of medical tests, testing centers, hospital beds, and the absence of a vaccine [5].

As the world adapted to the pandemic, media platforms ran "horror stories" of empty store shelves. More and more people grew concerned and thus stocked up on even more supplies. Publications like *Time* [6], NBC News [7], *U.S. News & World Report* [8], and almost every other outlet posted articles describing images of near-empty aisles and full shopping carts, as shown in Fig. 1 and Fig. 2. Cleaning products, face masks, and toilet paper were in short supply for much of February, March, and April of 2020. But was
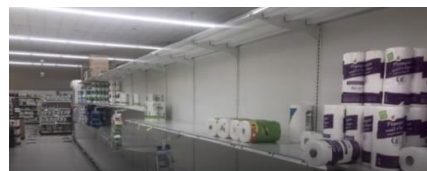
this because of panic buying?

Fig. 1. Empty store shelves devoid of toilet paper and kitchen towels [9].

Fig. 2. A target at Wadsworth, Ohio sold out toilet paper in one day [10].

While stores were selling out essential products, we learned that market suppliers were also stressed to increase and redistribute production in new ways to satisfy the growing and unexpected demand. Resupply took time, during which more and more news reports drew attention to "panic buying" and urged their audiences to avoid the behavior. Such media exposure has exacerbated fears that consumers would be unable to obtain daily essentials, which contributed to a vicious cycle of increased consumption and pressure on suppliers and retailers. It also introduced the demonization of persons stocking up on their supplies.

In the United States and around the world, concern over shortages has affected every citizen. Not only do resource shortages put healthcare professionals and first responders on the line, the average American also suffers psychologically at the thought of impending shortages of daily supplies. Anxiety began to surface about the lack of seemingly ordinary items like toilet paper. Even in Queensland, Australia, a family was reported to have accidentally spent nearly $4,000 on 40 boxes of toilet paper, as the homeowner was shown on social media sitting on a throne of toilet paper with a handcrafted crown and staff [11]. Another clip of shoppers physically fighting over a pack of toilet paper in an English-speaking country received more than 8.1 million views on Tik Tok as of August 2020. [12]. Fig. 3 is a screenshot from the clip. These incidents provoke curiosity about why increased consumption of the public preparing for an unprecedented quarantine became the target of scorn and ridicule.

Conventional wisdom has attributed the real and

consequential shortages that emerged with the pandemic to customers' irrational and panicky mentalities. Taking a step back, and with the aid of industry insiders and supply chain analysts, a different pattern comes into focus. Empty shelves are only one part of the disrupted supply and demand chains. But in public conversation, shortages have been exaggerated, poorly explained, and treated as mysterious. Rather than blaming the irrationality of consumers for shortages, it is more interesting to investigate other factors behind the images of empty shelves and brawling shoppers, and then search for reasons for the distortions that took root in the public imagination.

Fig. 3. Shoppers attempting to seize a pack of toilet paper [12].

In this paper, I will argue that during times of social disturbance, a problem like "panic buying" has been created by fears sparked by influential opinion shapers, rather than by inherent traits in the individuals of interest. I want to contend that the issues of shortages and panic buying are not the same, nor should they be confused with one another. Using theories from sociology and psychology, including the Thomas' classic theorem on the definition of the situation, I propose that the socio-psychological environment can drive reasonable persons to engage in unexpected behaviors [13]. But, a different set of social processes in the social and institutional context leads to the imposition of deviant labels on persons experiencing shortages and trying to prepare for them.

The Thomas' "definition of the situation" also summarizes how this situation of panic buying has been defined as real in its consequences. The empty shelves of toilet paper were not a critical issue in the first place; however, the discussion and panic over "panic buying" were real, analyzable consequences. Thus, this situation was brought to life out of a non-issue in the first place.

II. Social Networks Proliferate Panic Buying

To help explore the power of the social environment of the COVID-19 world, we can look to *Connected: The Surprising Power of Our Social Networks and How They Shape Our Lives* by political scientist James H. Fowler and sociologist Nicolas Christakis [14]. This book describes interpersonal connections and how social networks have a life of their own. Everyone participates in multiple networks, with their beliefs and actions driven most strongly by those persons within three degrees of influence: their friends, their friends' friends, and their friends' friends' friends. Based on this model of social influence, social webs can drive clusters of consumers into certain states of mind and social behaviors. Fowler and Christakis introduce

the concept of social networks as consisting of connections among persons and groups, and contagions of ideas and behaviors. *Connection* is a tie between friends, colleagues, or couples, whereas a *contagion* includes the spread of ideas and beliefs that flow across interpersonal bonds. Communications among friends, conversations at the workplace, and exposure to the news are some media of contagion within the network. While individuals can shape their social networks, networks influence individuals to a far greater extent.

Fowler and Christakis' social theory sheds light on panic buying trends during COVID-19. As people stayed inside for longer increments, we know they naturally bought more household goods at once. There is reason to believe that they influenced one another to do the same. Patterns of individual consumption during quarantine, altered in small ways by information and advice anticipating the pandemic in the social network, have been perceived as purely motivated by an eruption of individuals' anxiety and self-centeredness. Customers in the same store can influence each other in their actions. If one sees another customer grab two bags of bread instead of one, they may ask themselves, "should I also get another, just in case?" The scope of this kind of behavior was exaggerated and simplistically labeled as "panic buying."

Building from Fowler and Christakis's point, this "just in case" attitude among consumers becomes increasingly contagious in the context of COVID-19. So, consumers affect one another when they observe others' behaviors and incrementally conform with their friends and neighbors. Just within one degree of influence, one person's actions contribute to most of their friends' behavior, especially if they want to feel safer in a pandemic. No matter their socio-economic status, everyone has a "just in case" attitude when it comes to stocking up for groceries that seem to run out faster than ever. A social network can be responsible for modifications or even distortions in public behavior, since it instills predominant thinking patterns in its participants. Rather than individuals consciously evaluating if they truly need a second loaf of bread, they follow a social trend.

Fowler and Christakis mentioned a variety of contagions in their discussion of networks. Another example is a laughing epidemic reported in East Africa, where more and more Tanzanians are caught laughing for days on end. Fowler and Christakis take care to describe this epidemic as a socio-psychological phenomenon, rather than as a medical condition. The social nature of the disruptive clinical behavior appeared in the very random and peculiar form of sustained, communal laughter [15]. Betraying similar social and psychological origins, public concern in COVID-19 has focused oddly and arbitrarily on the shortage of toilet paper. We know that hoarding of toilet paper and other household goods is not an inevitable, organic response to an emerging pandemic. Instead, it is a socially and psychologically influenced perception of behaviors, which had themselves been inspired by socio-psychological contagions in personal networks. It is not something inherent in the individual. By the very theory of the social web, the individuals, or nodes, are entirely formed by the branches connecting the nodes. Thus, it is more logical to see panic buying as being generated by means of social connection and social

awareness.

III. DEMONIZATION OF PANICKED BUYERS

When conditions are right, moral panics can be found in any place, at any time. During COVID-19, excessive consumption has been demonized in the United States and other parts of the world. I contend that this demonization conforms with the theory of moral panic as described by British sociologist Stanley Cohen. He states that public alarm over new, unusual, and unexpected behavior sometimes leads to harsh criticisms of the behavior, exaggerating it as a threat to conventional order. Measures are then taken to contain the threat. Public reaction to shortages of necessities and to consumer behavior during the pandemic may qualify as a moral panic by Cohen's definition. The reactions reported in the media strikingly exhibit Cohen's five defining features of a moral panic: *concern*, *hostility*, *consensus*, *disproportionality*, and *volatility* [16].

Cohen develops his theory of moral panics in *Folk Devils and Moral Panics: The Creation of the Mods and Rockers* [17]. In the book, he demonstrates how mainstream society demonized the Mods and Rockers, two rival British youth subcultures in the 1960s and 70s. From small incidents such as a rock fight, the British media and other elements of the establishment redefined the Mods and Rockers as threatening folk devils. The safety of the country was said to be in peril, and violent measures were called for to prevent the boys from engaging with one another and spreading disorder and destruction across the land. This case is similar to panic buying because both issues concern a majority worried about a set of issues, which demonizes social deviants—those who think and act differently from conventional standards.

First, we can relate Cohen's discussion of the Mods and Rockers to the media's response over panic buying during COVID-19, through the first two components of the kind of moral panic he described over those rival youth subcultures. These elements are *concern* and *hostility*. *Concern* emerged when British locals first saw stories of a rock fight between the Mods and Rockers at Clacton, a holiday resort. A consequential *hostility* towards the boys emerged through media discussions of the incident. In the process, misbehaving teenagers were transformed into social demons.

In the case of the moral panic over panic buying in COVID-19, we find expressions of *concern* when Americans began to link videos of supermarket brawls over toilet paper to shortages in their local stores, and possibly to other, more serious shortages, like those of medical resources. Some outraged internet users commenting on these scenes indulged in *hostility* towards those they considered as social demons—persons responsible for their missing items and for a weak public health response to a life-threatening pandemic. For example, the woman in Fig. 4 claims that there have been numerous times where others have blamed her for the toilet paper shortage.

In Cohen's theory, a full-fledged moral panic consequently exhibits other features: *consensus* of popular opinion on the issue, *disproportionality* in evaluating any

threats posed by the alleged deviants, and *volatility* in reaction to the behavior in question. If we revisit the British locals' reactions against the Mods and Rockers, we see the emergence of a clear *consensus* demonizing the boys because of their moral profile, which set them apart from the average schoolboy. As we enter the *disproportionality* stage, agents of social control got involved in the brewing social panic. The Clacton police detained many Mods and Rockers for "crimes" as trivial as standing on the wrong side of the street [18]. Episodic institutional efforts to suppress the problem reinforced the deviant label and manifested the *volatile* nature of the phenomenon, in recurring incidents and in public concern, which could erupt and subside unexpectedly.

Fig. 4. A customer who ordered the wrong number of toilet paper sits atop numerous boxes of the product. This screenshot is taken from a video where she mentions the public backlash she received. [11].

In the case of alleged panic buying preparing for COVID-19, an internet *consensus* formed that a vaguely identified and shifting group of "hoarders" was inconveniencing the public by buying up essential items, even wasting money on cases of toilet paper, then building thrones out of them to boast of their consumer savvy. Although media clips of toilet paper thrones or toilet paper fights were rare, each of the few clips garnered hundreds and thousands of views. These videos came to carry more weight than they deserved, leading to the *disproportional* reaction of the public to the possibility of minor inconveniences from delays in the adjustment of the supply chain. Fury and indignation erupted over empty shelves in stores and "out of stock" messages online. Media articles and tweets contributed to the *volatility* of this moral panic, with intense and judgmental calls for preventive action, as complaints mounted about the stupidity of "people who bought up all the toilet paper."

With these five elements of a moral panic in mind, we can see how a society could feel itself at risk from an imagined threat. Compared to the panic over the lack of toilet paper, internet users seemed less worried about nation-wide shortages of PPE (personal protective equipment), which first responders desperately needed. As a matter of record, the apparent toilet paper shortage simply came from extra time required to redirect channels of production from the commercial market for toilet paper, to the consumer sector. Journalist Will Oremus attributes the toilet paper craze not to hoarding, but rather to a simple shift of demands from factories and businesses to demands from individual homes [19]. With international trade lockdowns, shipping added even more time to redistribute supplies from the commercial to the consumer channel. The moral panic over concerns of scarcity amplified a transient issue by demonizing the panicked buyers.

IV. THE MEDIA AS VEHICLE OF CONTAGION FOR MORAL PANICS

Mass media and social media played an important role in leading Americans to perceive excessive consumption in terms of a consumer panic, thus contributing to a moral panic. Returning to Fowler and Christakis' social network theory, which helped explain the influence of others on increased consumer purchasing at the start of the epidemic, we can categorize media as an increasingly pervasive agent of contagion propagating fear and judgment. In the physically-isolated COVID-19 world, Americans heavily relied on news websites and social media for information outside the walls of their homes. Much of their knowledge of current events came from the media.

Social media are an effective agent of contagion because we almost feel that they are invisible. When scrolling through Twitter, we are under the impression that we are directly communicating with the tweet's poster. Pictures and videos are especially convincing. We rarely consider who is behind the post or how the commentary influences our judgment of an image or a clip. In addition, we tend to believe that everything on a news website is true. In an information-booming age, analyzing the credibility and bias of an online source seems too tedious for the casual viewer.

The nature of media gives insight to its problematic contributions to the moral panic over excessive consumers. In a span of 15 days, almost all media publications in the English-speaking world published articles about toilet paper. Whether to inform, analyze, or debunk popular opinions on panicked buyers, the omnipresence of the topic heightened a moral panic that was not much of an issue in the first place. On Twitter and Facebook, the frequency of seeing a phrase like "toilet paper panic buying" also fostered a sense of urgency in consumers who were already in fear. As the media created an impression of a need to prepare for quarantine, they drove the public to stock up with extra supplies. They are important in this discussion for the obvious part in stimulating an increase in home consumption, which they did in conjunction with the influence of overlapping social webs among consumers. The media also prompted panic over the consumption that they had provoked, generating the common impression of a nation at risk for panic buying and panicked buyers.

With an understanding of media as a vehicle for contagion—the diffusion of beliefs and impressions about the social world into users' minds—we can relate it to moral panic theory, specifically during the *disproportionality* stage of people's perception of panic buying. The clips of toilet paper fights and toilet paper thrones crept up the social web like wildfire. In the videos, we see faces, but we actually render them as anonymous in the sense that we do not care about the names of those involved. Antagonism toward such anonymous and threatening others is a hallmark of a moral panic. We blamed a certain group of bad actors for buying up all the goods, without knowing who they truly were. At the same time, the media had the ability to transfer information with great speed and over vast social and other spaces, triggering waves of spontaneous and intense emotions. The biggest contribution of the media may be to the *volatility* that Cohen describes as one of the factors transforming a modest problem into a moral panic.

V. CONCLUSION

With most of the socio-psychological factors in place, we can review how panicked buyers became a heated point of discussion, even when excessive consumption of goods such as toilet paper were not actually very pertinent in the COVID-19 world. First, social networks of consumers and media clients were in place. The media were ready to serve as major agents of contagion, and internet users became nodes of connection in its spread. These two factors initiated two distinct trends: anxious consumers overstocking on supplies, and people viewing those consumers as panicky social deviants. In these social and psychological contexts, and with the aid of newspapers and social media, the demonized consumers are further reframed as "enemies." The role of panicky consumers as originators of shortages has been exaggerated. Defined as a real phenomenon, the non-issue has thus been turned into a quick but intense moral panic.

By referring to Cohen's analysis of the Mods and Rockers incident, I have traced the origin of a moral panic during the COVID-19 pandemic from an increase in consumer buying and supply chain shortages. It is important to note that in Cohen's analysis, the mainstream British public reacted extremely violently to the Mods and Rockers, with courts imposing fines and jail time. On the other hand, the online response against toilet paper stockpilers was also intense, but there was little coercive social control. As a moral panic, our incident of interest was low in consequences. However, its unique cyber nature exemplifies how 21th century media platforms quickly spark controversies. Because of social media and online news websites, the moral panic spread internationally within hours. The concern for toilet paper shortages seemed to exist everywhere online: on Facebook pages, Twitter timelines, and front page news articles. This was all due to the omnipresence of technology and the anonymity of seemingly detailed videos. So while the moral panic over the Mods and Rockers revealed a general disdain for British youth culture, panic over excessive consumption exposed the power and volatility of modern social webs and the media.

Much of this paper focuses on responses over the lack of toilet paper. But after analyzing the underlying social networks associated with a moral panic, it is quite ironic to find such an exaggerated reaction towards such an inconsequential artifact like toilet paper. In contrast, PPE shortages did not spark such a social panic when masks and test kits saved lives. Toilet paper does not.

In addition to the distortions in public perceptions of the excessive consumption, the rapidly escalating moral panic further exaggerated any public backlash against panicked buyers, no matter if they were supposedly hoarding toilet paper or masks. Taking a step back, we can see that under the influence of social demons and alarming news articles, the moral panics to which societies are prey carry a heightened risk—they readily promote cohesion across social networks. That solidarity may be experienced as real and rewarding, but it may occur at the expense of a rational

assessment of facts involved in complex problems, leading to unwelcome and severe outcomes.

CONFLICT OF INTEREST

The author declares no conflict of interest.

AUTHOR CONTRIBUTIONS

Shuxuan (Elizabeth) Li is the principal investigator of the project at hand. She reviewed sources, conducted research, and wrote this paper.

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