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Sewing Self-Efficacy: Images of Women's Mask-Making in Appalachia during the COVID-19 Pandemic

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Abstract

"I could get out my sewing machine and do something to make a difference."- Gwen

In early March of 2020, news regarding COVID-19 spread in hushed tones throughout medical offices and church hallways in small cities and towns in the Appalachian region of the United States. Although case numbers were quickly rising in major U.S. metropolitan areas, the virus was just becoming a known risk in Appalachia. During this time, Appalachian women gathered information about prevention efforts and quickly acted using what resources they could access to provide homemade masks for themselves, their families, and their communities. In this study, the authors interviewed 15 of these women and examined 9 of their social media accounts between March and August 2020 to better understand both the individual and social aspects of mask-making and advocacy during the pandemic. Our findings and the accompanying photo essay support that mask-making and the sharing of narrative images during this time period established feelings of self-efficacy within a chaotic environment, allowed these women to express their identity within the crisis, and provided an opportunity for both public health advocacy and community care through craft.

Keywords: COVID-19, pandemic, crisis communication, narrative image, masks, health communication, advocacy

Word Count: 6350

Introduction

When the United States of America went into a nationwide shelter-in-place order on March 13, 2020, Americans were confused about COVID-19 and the specific risks to themselves and their communities. But for many women with access to a sewing machine, it quickly became clear what they could do to make a difference, and that they could do this from the safety of their own homes. The attempts to overcome the adverse effects of the crisis and mitigate risk were at the forefront of their efforts. Making masks, documenting their mask making processes, and sharing images on both social media and offline became a way to increase conversations around COVID-19 and its risks, while also allowing them to assert their stance on public health, care for others, and engage in the pandemic response. In addition, through making and sharing masks and their mask making narratives, they asserted self-efficacy, which allowed them to cope with the pandemic crisis.

Background

Initial reports of COVID-19 cases emerged from China in late November 2019 and by March 2020, the SARS-CoV-2 virus, which causes COVID-19, had clearly infiltrated the United States. Many larger US cities invoked Shelter-in-Place orders, while smaller ones typically issued social distancing recommendations. Various states also initiated lockdown orders and curfews. During this time, individuals began to assess their risk factors and question the degree to which preventative measures, including masks, were necessary. Initially, it appeared that the pandemic would be a short-term concern, but by April many people realized daily life would require several adjustments including mask wearing, increased handwashing, and social distancing.

COVID-19 and Mask Wearing

In response to the pandemic, the White House created a Coronavirus Task Force headed by Vice President Mike Pence in March. The task force amplified recommendations made by the CDC and WHO regarding mask usage to combat disease spread. In early April, President Donald Trump suggested that people use a cloth face covering when they visit crowded places as a precaution, but stated he would not be following these recommendations (McDonald, 2020). Yet in July, President Trump seemingly reversed his stance, tweeting a photo of himself wearing a mask and calling the practice "patriotic" (Olorunnipa, 2020). The level of risk associated with COVID-19 caused people to share health information, as well as their personal opinions on the topic, with others on social media via both text and images. In the process, many people became confused as to how they should respond, as misinformation was met with segmented discourse around health.

Debates regarding the use of masks by the public stemmed from changing views communicated by health authorities and politicians, misconceptions, and

stigmatization during the COVID-19 pandemic (Tso & Cowling, 2020). However, many credible global health authorities have now acknowledged that masks are effective with proper use, along with other hygiene measures (Tso & Cowling, 2020). While some continued to rally against mask usage, this preventative practice was adopted by around 86% of Americans by late June and has been found to be one of the most effective ways of limiting the transmission of the COVID-19 virus with proper use (Centers for Disease Control and Prevention, 2020a, 2020b, 2020c; Brenan, 2020).

"Grassroots" Public Health Messaging

Engagement on social media regarding mask usage in disease prevention may be considered an example of grassroots public health messaging. Research studies have reiterated the need for a coordinated response from trustworthy agencies when communities face a public health crisis (Cairns et al., 2013; Dickmann et al., 2014; Frieden, 2014; Ruiu, 2020; Tay et al., 2010). Yet in the 2009 H1N1 pandemic, researchers learned that many health and crisis communication agencies did not consider the ways messages could change because of user-generated content (Freberg et al., 2013). Mobile device usage and social media proliferation over the past decade only amplified this factor in advance of the COVID-19 pandemic, thus enabling the population to engage in rapid and widescale communication about public health and disease prevention.

Crisis communication scholars have recently started to examine how social media users can potentially influence health communication practices (Freberg et al., 2013) and to understand how social content interacts with news media and official messaging in the communication ecology of the COVID-19 pandemic (Richards & Perreault, 2021; Perreault & Perreault, 2021). Images shared in social media posts can help to counteract misinformation by providing more accurate depictions and/or information specifics and contribute to discourse around topics of concern (Foss, 2005; Page et al., 2016). The idea of narrative medicine also touches on this topic, though typically from a medical provider standpoint. Less focus has been applied to how community members can support public health crisis communication through their own social media and offline narratives. There is vast potential for "amateur" narrator influence in this space, both regarding cause volunteerism (Kazemek, 2014) and public health advocacy.

Although digital communication from governments, health professionals, and community members can assist in times of public health crises, source trustworthiness differs (Goldberg et al., 2020; Guidry et al., 2017) and social media use can also cause significant and unrepairable damage when used irresponsibly (Depoux et al., 2020; Sharma & Bisht, 2017). While social media communication strategies are an essential component of disaster planning, response, and recovery (Houston et al., 2015), quickly changing user-generated messages can overpower

traditional information sources like governments, news media, and first responders. When people receive and potentially share unreliable information, they have the potential to endanger their health and the health of others, and cause negative long term, economic, and societal impacts (Walker, 2016).

Images and Selfies on Social Media

One of the clearest ways in which people share their identities and alignments on social media is with images, and in particular selfies. Selfies are photos a person takes of themselves to display their identity. (Lim, 2016). Scholarship on selfies has examined aspects including advocacy, social media engagement, self-revelation, coping with trauma, and exploration of identity (Tiidenberg & Gómez Cruz, 2015). Other research has found that selfies provide therapeutic ways to transform individual experiences (Martin & Spence, 2003). Women often use both images (Gibson, 2020) and social media to portray experiences, which is consistent with the idea of portraying self-efficacy in a culture of surveillance (Tiidenberg & Gómez Cruz, 2015). Specifically, Lee (2005) has argued that for women, selfies can offer a way to find control when dealing with chaos. The reposting or modification of social media images or texts is another way to engage people in discussion and possibly change the way people think about a particular issue (Boyd et al., 2010, Abbasi et al., 2010, Kavanaugh et al., 2012, Perreault & Perreault, 2019, Simon et al., 2015). Thus, an examination of shared images, including selfies, may provide a way to examine women's self-efficacy actions in the mitigation of a crisis, as well as long-term crisis coping behaviors.

Showing others how self-efficacy can be obtained in times of crisis is also a highly effective strategy for social media content creation and sharing. Showing efficacy, or a person's perceived ability to influence events that affect their lives (Bandura, 2010), is a key component of health preventative action and a beneficial element in public health communication. Messages that focus on efficacy have been shown to outweigh those that enhance threat perceptions in terms of population behavioral response (Barnett et al., 2014). Of note, many social media images, messages, and memes shared by both organizations and community members have touched on the topic of mask efficacy in disease prevention throughout the pandemic.

Research Question, Methods, & Analysis

Our primary research question for this study asked, "How did Appalachian women visually narrate the practice of mask-making during the early stages of the COVID-19 pandemic?" Within this question, we also sought to understand primary goals of women's image use and sharing during this time.

This study took place in two main stages. First, the study underwent Institutional Review board review and approval. Then, mask makers living in the

Appalachian region of the United States were recruited for the study through the authors' social media networks and publicly shared/reshared promotion of the study via social media, email, and via regional health networks. Potential respondents were screened to be at least 18 years of age or older, currently making masks in relation to the COVID-19 pandemic, and living in a county within Appalachia, as defined by the Appalachian Regional Commission, before participating (Appalachian Regional Commission, 2021).

Appalachia was selected as a focused region for examination for several reasons. A primary geographic selection consideration was the timeline of disease progression in the United States. Appalachia was heavily affected somewhat later in the US pandemic timeline, well after cases saturated major metro areas like New York, Seattle, and Los Angeles. This gave Appalachians a longer preparatory window of time to research and complete preventative behaviors before direct virus impact. In addition, Appalachians have long struggled with interrelated social issues such as access to health care, poverty, and lack of health insurance, while the region also experiences high rates of other comorbidities including cancer, heart disease, and prescription drug abuse (Beatty et al., 2019; Behringer & Friedell, 2006; Cecelski, 1984; Appalachian Regional Commission, 2017; Oberhauser, 1995; Seitz, 1995). These challenging aspects of regional health pre-pandemic thus created considerable worry about amplified effects of COVID-19 in the community amongst both medical professionals and community members.

Participants living in a variety of Appalachian States, including Ohio, Virginia, Tennessee, North Carolina, and Georgia, from various educational levels, types of employment (e.g., essential employee, remote worker, volunteer, fully retired), and generational groups (ages ranging from early-twenties to early-seventies) were initially interviewed via Zoom by the authors for 30-45 minutes between late April and early May of 2020. All respondents in the study identified as female. Usage of Zoom ensured respondent and author safety and respected social distancing guidelines during the pandemic. All interviews were recorded, auto transcribed, and then reviewed and edited as needed by the authors for accuracy. After the interviews, participants were given the opportunity to opt in for subsequent analysis of their mask-related Facebook postings (for personal and owned business accounts related to masks) from March through August of 2020.

Images included in the visual content analysis were thus supplied by the mask makers in two ways: either directly to the authors during the initial Zoom interview process (as examples of their visual narration of the time period and phenomenon) and/or obtained with the mask maker's permission during the second stage of social media analysis. Many times, mask images shared directly with the authors in the first research stage were also posted by the makers on social media or shared with the

makers' friends or family directly. However, each image was included for analysis only one time.

A total of 358 images were analyzed by the authors. Each image was reviewed by the authors independently and coded by primary theme conveyed. Authors then compared coding results, found a high degree of intercoder reliability, and aligned on final themes for thematic category labels. As a final step, the authors asked the mask makers who participated in the study to review the themes found and the coding of the images for verification of accuracy.

The five themes illustrated visually throughout both research stages included:

· Mask Advocacy- images showing completed masks (not directly sales related), donations of masks, people wearing masks (140 images)

· Managing Identity- maker selfies, images empowering the roles of sewists and makers (26 images)

· Self-efficacy- the making process, creative use of materials, images focused on sewing/sewing machines and the maker's sewing table (19 images)

· Coping- humor, displaying thankfulness/gratitude, practicing positivity (11 images/memes)

· Mask Sales- posts directly focused on advertising goods for sale (162 images)

Findings

In our findings, we focus on the observed visual themes of Mask Advocacy, Managing Identity, and Self-Efficacy. The additional themes of Coping through Humor and Mask Sales that were observed are also discussed briefly here. However, these themes were not analyzed in great depth due to primarily containing publicly available, re-shared images and memes within social media (Coping through Humor) or because the images served a purely tactical purpose of retail sales (Mask Sales). In addition to sales, mask makers also donated masks to people they knew, medical professionals, the elderly, and other at-risk community members in need of a mask.

Mask Advocacy

This was one of the largest visual themes examined due to the primary inclusion of many images of mask makers' final products (i.e., the masks themselves). A total of 140 images aligned with this theme. (Of note, images that were explicitly posted for sales purposes were not coded into this theme, but instead into the related theme of Mask Sales.)

The makers discussed the context for these images in both the interviews and in their social media posts. They were pleased to be able to contribute to disease prevention efforts by making and distributing masks and wanted to visually document their efforts during this time while encouraging mask usage. They distributed their finished products to individuals they knew directly, to medical providers, and in free community pantries and drop off boxes. Through social media, mask makers could also reach out to their social networks and beyond to share their efforts through these images and curated text. In relation to the images shared, many respondents also mentioned pride in the craftswomanship of the finished product and discussed the ways they worked to make the product more effective, comfortable, and fashionable so that more people would adopt mask wearing as a normalized behavior.

Figure 1

Various Mask Colors and Patterns, Shared on Facebook

Figure 2

A Handful of Completed Masks, Shared in Research Interviews

Figure 3

Finished Masks on the Ironing Board, Shared in Research Interviews

Figure 4

Completed Masks on the Cutting Table, Shared on Facebook

Figure 5

Mask Distribution at a Little Free Pantry, Shared on Facebook

Images in this category focused more on the *mask* itself versus the *maker*. By sharing images of masks and images of other people wearing masks, for example a local mayor, team mascot, or family member, makers contributed to mask normalization. (Of note, images of others wearing masks have not been shared in these findings due to both lack of consent from those individuals and several of the individuals pictured being minors.) By also showing images of mask donations and pick-up sites, makers combined advocacy with a direct call-to-action. Some mask makers also made posts public in order to reach a broader number of people and encourage more widespread community adoption.

Managing Identity

A total of 28 images were coded under this theme, including many mask maker selfies. Selfies either showed the makers wearing masks and/or making masks. This promoted two aspects of identity: mask *maker* and mask *wearer* (and sometimes, both at once). More selfies showed the makers wearing the masks versus making them, thoroughly illustrating the mask makers support for mask usage in the community and closely connecting this theme with that of Mask Advocacy. One maker even created stickers that thanked people for wearing masks and would distribute these when distributing completed masks. At times, other visual cues connected to identity management (e.g., a rainbow flag- typically signaling support of the LGBTQ community, a Black Lives Matter sign) were also displayed in image backgrounds.

Figure 6

Maker Selfie, Shared in Research Interviews

Figure 7

Maker Selfie, Shared in Research Interviews

Figure 8

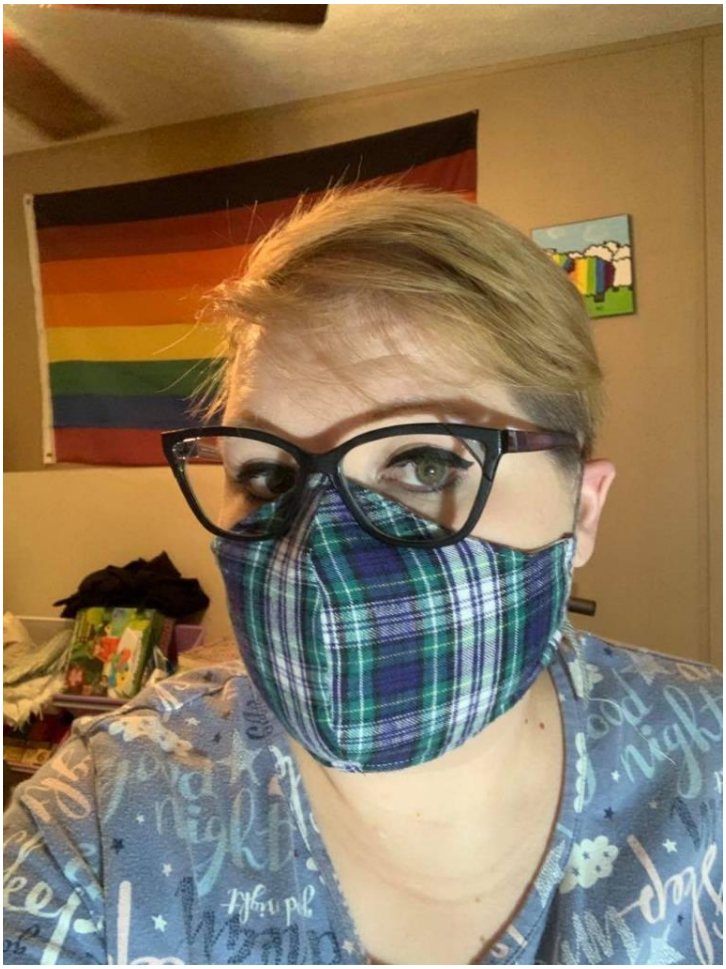
Maker Photograph, Shared on Facebook

Figure 9

Maker Selfie, Shared in Research Interviews

Figure 10

Maker Selfie, Shared in Research Interviews



Though all of the mask makers interviewed had some previous sewing experience, recency of experiences prior to the pandemic varied. Some were currently sewing professionally or semi-professionally, whereas others had not done so for years. However, all took pride in this ability and were pleased to be able to contribute to disease prevention through their efforts. This was illustrated visually through images of makers sitting at their sewing machines or images of them sewing or piecing masks together. Here, the focus included the maker performing the action or clearly showing themselves in their work environment as a form of identity management. Other images which did not clearly show the maker or only focused on the action of making or the materials used were coded under the theme of Self-efficacy.

Figure 11

Maker Selfie at her Sewing Machine, Shared on Facebook

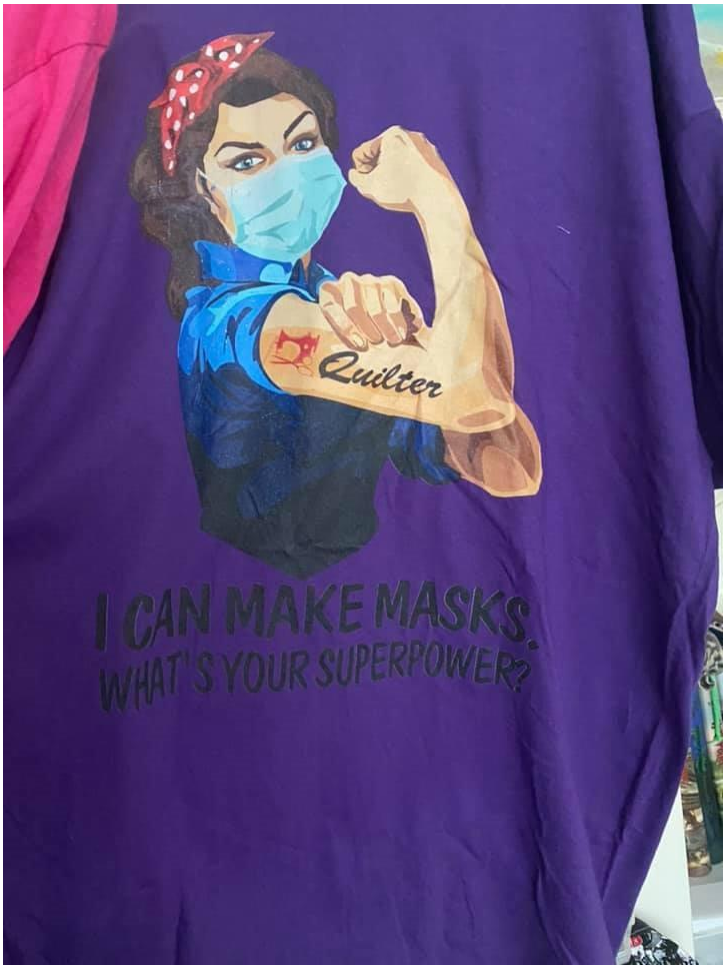
Figure 12

Maker Photograph at her Sewing Machine, Shared in Research Interviews

Although many images in this category included selfies, one of the mask makers also shared images of two shirts she had purchased during the pandemic that highlighted her role of mask maker. One of these images, that portrays "Rosie the Riveter" as a mask maker, was also a popular meme shared during this time period. The shirt also states, "I can make masks, what's your superpower?" This empowering image and statement align the role of female mask makers with the historical efforts of women in war time who stepped into roles previously filled by men for the sake of national welfare. This image has provided a continued symbol of female strength and resilience in the United States in the years following its initial use in World War Two.

Figure 13

Rosie the Riveter as Mask Maker on a T-shirt, Shared on Facebook



Self-efficacy

Images in this theme highlighted the mask makers' process for making the masks (e.g., pinning, adding ear loops made from various materials, sewing), and/or displayed the actual materials and tools used in mask construction (e.g., the sewing machine, the cutting table, scissors, pins). Nineteen images in total were coded under this theme. These images highlighted the actual *process* of the work versus the *product* (as illustrated in the Mask Advocacy theme) or the *maker* (as shown in the Managing Identity theme).

Makers viewed the making of masks as a proactive act of disease prevention for themselves, their families, and other community members. The initiative to make masks was primarily based upon information they were seeing from the CDC, WHO, and in other media that certain types of masks (N95) were helpful, but that they should not be used by non-medical personnel. These masks were also unavailable for consumers to purchase due to supply shortages. At that time, some looked for disposable surgical masks as another option, but again, they were nowhere to be found. In their desire to protect themselves and others, many of these women felt that "doing something was better than nothing," and displayed self-efficacy by crafting their own masks out of cloth and other materials on hand. "Radical resourcefulness," as described by Porter & Richards (2019, 29) frequently intertwined with this theme of self-efficacy, as makers scavenged whatever materials they could access and made them functionally useful in new and surprising ways. Makers stated that they generally received positive reactions to their efforts, including receipt of donated materials or financial donations from community members (especially for the makers who were donating their finished products).

Figure 14

The Maker's Cutting (and Dining) Table, Shared in the Research Interviews

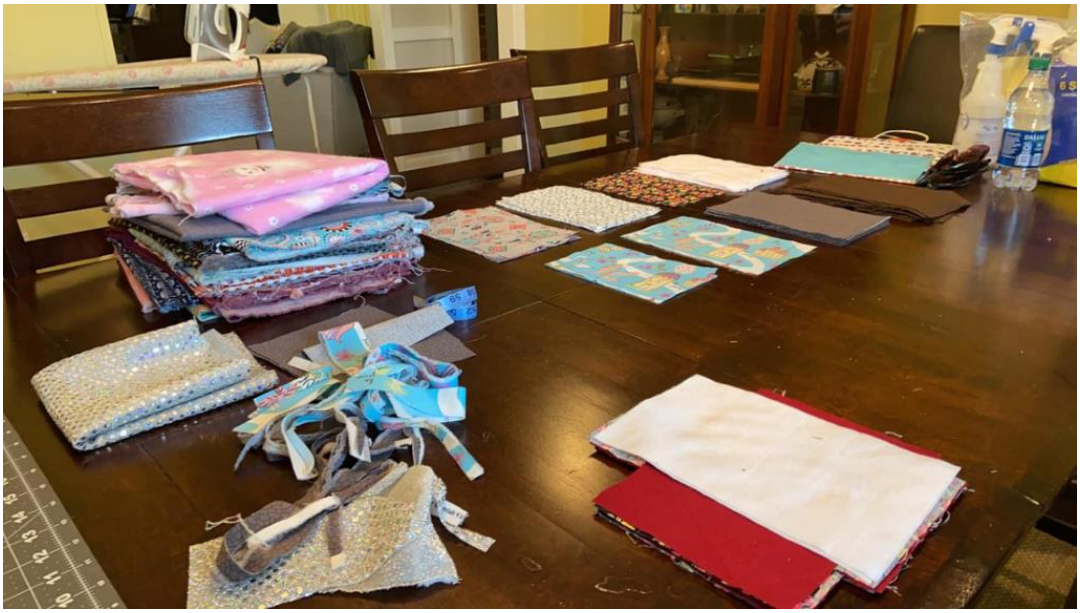


Figure 15

The Cutting and Piecing Process, Shared in Research Interviews

Figure 16

The Pinning Process, Shared on Facebook

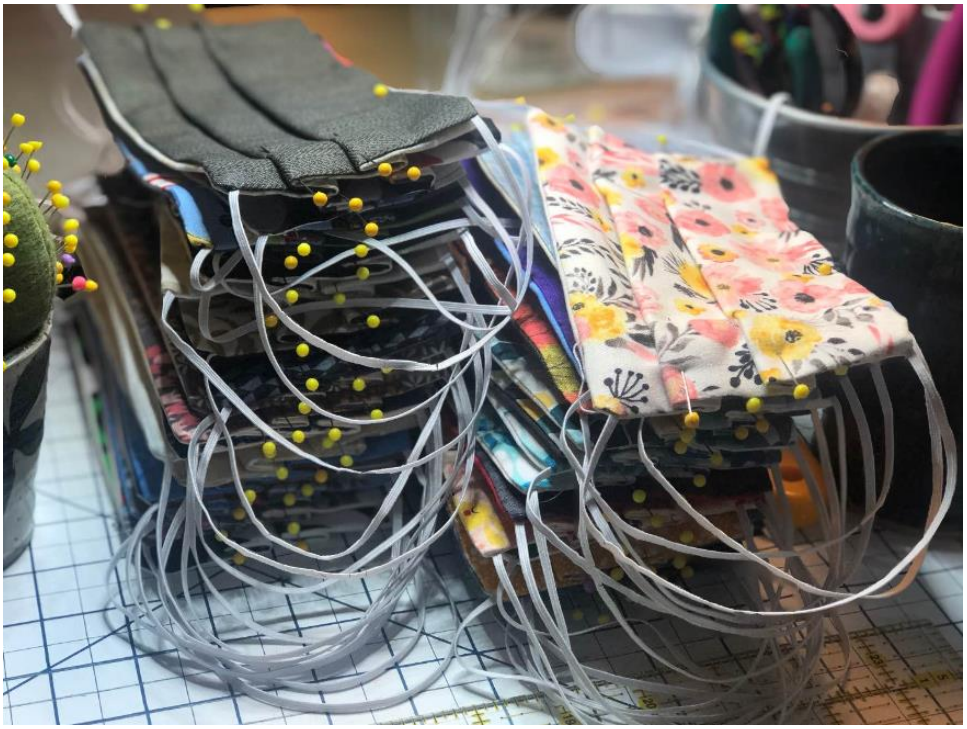


Figure 17

New Mask Coming Off the Machine, Shared in the Research Interviews

Figure 18

Final Touches, Shared in the Research Interviews

Figure 19

Mask Sewing in Action, Shared in the Research Interviews

Makers spoke in detail about their mask making process and its evolution as leading health organizations provided more guidelines regarding homemade masks and began to tout their efficacy. While many initially started with a two-layer cotton mask, most added a filter pocket or a third layer of a polyester or polypropylene-based material as interfacing at some point in their process. Necessity was also the mother of both invention and resourcefulness. Ear loops, initially cut from spools of new elastic, were replaced with hair ties, scrap elastic from old garments, ribbons, or old t-shirts when sewing supplies went into short supply. Makers crowdsourced thread, sewing needles, and fabric. Even a tea towel was used as a fabric source.

Figure 20

Repurposing a Tea Towel, Shared in the Research Interviews

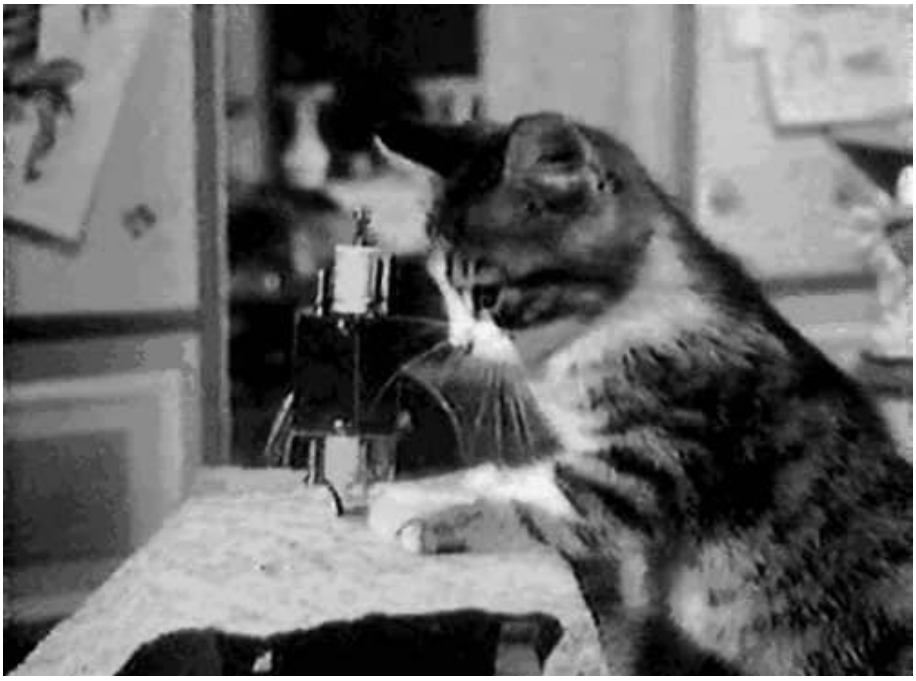
Coping through Humor

Though mask makers frequently made comments regarding their gratitude for donations and other types of support, as well as their gratitude for mask usage in the community, this theme was primarily illustrated through the sharing of humorous memes, text-based .gifs, and funny images in relation to mask making and mask wearing. There were only 11 of these images shared by the makers in total versus the other categories of images.

Items shared in this category were typically not created by the mask makers themselves, but re-shared from other social media sources. Examples included a .gif about "Schrodinger's face mask: Simultaneously too flimsy and porous to keep germs out; and yet such a powerful barrier that it keeps oxygen out and carbon dioxide in" and another popular meme equating spreading coronavirus to uncontrolled public urination and facemasks to a pair of protective pants. Due to the content being re-shared and generally not including original images created by the actual makers, this was not an area focused on for in-depth visual analysis. The one original humorous image that was shared within social media is shown in Figure 21.

Figure 21

Makers' Cat "Helping" with the Mask Making Process, Shared on Facebook



Mask Sales

The most frequently shared category of images, particularly on social media, related directly to mask sales. There were 162 images in total coded under this theme. In these posts, makers displayed completed products, called out pricing, and briefly described features of the masks. Some also mentioned local mandates related to masks to help encourage purchase and usage, for example, "Face masks are now required in (X) and (Y) County. Need 1, 2 or 5?" Many of these posts stated mask pricing and sometimes provided a few comments about features or patterns, accompanied by up to 15 images of available fabrics and/or finished masks. Due to the primary tactical purpose of mask sales and associated lack of depth in the images for analysis, this was also not an area we examined in further detail. Outside of the specific details about pricing and sales messages that accompanied the images, many of the images in this category were similar to the images shared in the "mask advocacy" theme (in that they showed finished masks), while other images showed the plethora of fabric options customers could choose from.

Figure 22

A Maker Shares Some of her Available Fabrics for Masks, Shared on Facebook

Discussion

Visual images allow for rich storytelling and narrative engagement around causes and concerns. In many cases, respondents stated that images shared during the initial research process (i.e., Figures 2, 3, 6, 7, 9, 10, 12, 14, 15, 17-20) were later shared on social media or sent directly to other friends and family. Citizens can directly impact the way the general public perceives a crisis or challenge, by using images to formulate a narrative or context for the issue, since images may be easier to process and more quickly recognized. Often, individuals share messages to verify or validate where they stand, or to respond to other messages being posted by those who they disagree with (Perreault & Perreault, 2019). These women did exactly this, sharing images of masks to advocate for greater mask adoption in the COVID-19 crisis.

Images that are consistent with messages shared by government or public health officials provide an extension of valuable information, and user generated content can often saturate networks the official resources might not reach (Kavanaugh et al., 2012). This provides a benefit in the situation of a public health crisis like COVID-19. In both the discussions with makers and the subsequent social media analysis, it was clear there was greater clarity in their communication with others, as well as confidence in those messages gained overtime, as the CDC and WHO became clearer about the benefits of mask wearing– which resonates with recent findings about crisis self-efficacy and media messages (Ophir & Jamieson, 2020). Images like those shown in Figures 1-5 were frequently accompanied by information from these major public health organizations as they released clearer statements regarding benefits of cloth masks.

Images also allow individuals to express personal identity in a visual way. The practice of taking selfies (I.e., Figures 6-7, 9-11) has now proliferated every generation (in varying degrees) as a prominent cultural behavior and resulting artifact. The practice of self-portrait is not new, but immensely more accessible with the current proliferation of mobile devices. Instant connectivity of these devices also provides a platform for individuals to engage in a broader social discussion of identity within this exchange. Research has shown that women often use images of themselves or things in their daily routines to discuss their personal feelings about those experiences or events (Gibson, 2020: Enns, 2004; Stavrositu & Sundar, 2012 Tiidenberg & Gómez Cruz, 2015.) The images shown in this study displayed the participants' identity as mask makers, mask wearers, and advocates for greater mask usage.

Lessons can be learned from the experience of these mask makers regarding effective grassroots public health advocacy. Their sharing of images was often

aligned with their desire to assist the public and provide resources. The self-expressive photographs that mask makers took of themselves wearing their masks provide a catalyst for a conversation around mask wearing and the pandemic itself. While selfies have not been directly connected to public health messaging, they represent the advocacy, coping and self-efficacy of the women engaging in the presentation of their photos (Tiidenberg & Gómez Cruz, 2015). Many of the images shared also translated directly into action, by showing the making process (i.e., Figures 14-19) and finished products (i.e., Figures 1-5) and then inviting others to wear these masks by either purchasing or accepting a donation of a mask for personal use. Thus, the 358 images we analyzed for the study provide information about how the mask makers oriented themselves to the pandemic, as well as shared their strategies for crisis mitigation and coping.

Limitations

The COVID-19 pandemic was only one of several major events with lasting implications that occurred in 2020. The death of George Floyd, amplification of the #blacklivesmatter movement, and the presidential election also captured America's attention, as well as their social media posts. While some mask makers integrated posts that touched on the need for masks as well as social justice and strong political leadership, others shifted their focus from mask images to images of racial inequality or political concerns as 2020 continued. Typically, we observed that more posts about these other pressing issues coincided with less masks/mask-making posts from makers. Also, as time went on, masks became more widely available through retailers and the urgent need for homemade masks declined.

As an additional limitation, across the two research phases, there were only two participants who represented races and ethnicities other than white/Caucasian. Though respondents spanned a wide range of ages, all study respondents also identified as female. Future studies would thus benefit from examining the topic of grassroots public health advocacy and use of narrative images from a more diverse sample of the population.

We did not ask respondents their political party or how these beliefs may or may not have influenced their decision to make, use, and advocate for masks. However, a couple respondents did express frustration with President Donald Trump and his handling of the COVID-19 Pandemic, especially in relation to masks. As mentioned previously, President Trump and many other Republican leaders were inconsistent in their messages regarding the benefits of mask use during the early days of the pandemic. As the pandemic progressed, official messaging from the White House shifted regarding mask use, but still left open questions in the minds of

many Americans. Additional research that examines this dichotomy of political affiliation and mask use during this time period would also benefit this field of study.

This study was confined to participants within the region of Appalachia, as defined by the Appalachian Regional Commission. We therefore do not attempt to generalize these results, based on the geographic limitations of our sample and qualitative nature of our research. However, we strongly agree that this would be an interesting area for future inquiry. It would be of particular interest to the authors to further study whether geographic differences exist, and if so, how motivations and context for making and using masks during this time differed between Appalachia, the broader Unites States, and in other countries.

Conclusion

The initial onset of the COVID-19 pandemic brought all the mask makers challenges, but also the opportunity to cope with the challenges they faced. In response to our research question, "How did Appalachian women visually narrate the practice of mask-making during the early stages of the COVID-19 pandemic?" We learned that women shared images focused on the actual masks, the maker, the process of making, and related memes. Goals included mask advocacy, identity management, displaying self-efficacy, coping through humor, and income (mask sales). By using digital channels (and particularly visual communication via personal images) to share personal views and actions, the mask makers helped establish more trustworthy information concerning the public health crisis of COVID-19.

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