

# Framing the Global Youth Climate Movement: A Qualitative Content Analysis of Greta Thunberg's Moral, Hopeful, and Motivational Framing on Instagram

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Amanda L. Molder<sup>1</sup> ,  
Alexandra Lakind<sup>1</sup>, Zoe  
E. Clemmons<sup>2</sup>, and Kaiping Chen<sup>1</sup> 

## Abstract

Climate change is a critical global problem that requires immediate action to mitigate its effects. In recent years, youth climate activists have mobilized worldwide protests to demand action, using social media platforms to communicate and broadcast their message. This study examines Greta Thunberg's rise to global prominence through an analysis of her first year and a half of Instagram posts from June 2018 to January 2020, including visual and textual elements. First, we explore how climate change is communicated on social media by youth activists, and then examine these concepts through the unique case of Thunberg's Instagram. Then, through qualitative content analysis, this study elucidates her communication strategy by applying the concept of framing to unpack how she frames climate change as a moral and ethical issue, uses an emotional appeal of hope, and visually frames motivational collective action to mobilize her audience. Finally, we discuss the implications of our findings to explore the complexities of communicating climate change through social media and how Thunberg's activism on Instagram may provide an example for future generations.

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<sup>1</sup>University of Wisconsin – Madison, WI, USA

<sup>2</sup>Barefoot Public Relations, CO, USA

## Corresponding Author:

Amanda L. Molder, Department of Life Sciences Communication, University of Wisconsin-Madison. 1545 Observatory Drive, Madison WI, 53706.

Email: amanda.molder@wisc.edu

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Greta Thunberg, framing, climate change, visual communication, social media, Instagram, social movements, hope, morality

**Introduction**

Climate change is a critical global problem that requires immediate action to mitigate its effects. In recent years, youth climate activists have mobilized worldwide protests to demand action, using social media platforms to communicate and broadcast their message (Anderson 2017). In particular, Greta Thunberg rose to global prominence in a single year broadcasting her weekly climate strikes on social media. In 2018, the broader social media ecosystem surrounding Thunberg paved a unique path for her quick rise. Through her ability to create, broadcast, and control her own social media message, Thunberg became a global icon (Olesen 2020).

Youth activists have long found ways to garner media attention and bring people into their movements. Today, new media technologies provide many young people with both increased access to information and the ability to disseminate it more broadly (Andersen et al. 2021; Earl and Kimport 2011). Though scholars of climate change communication show that climate change is a difficult subject to discuss or act upon (Moser and Dilling 2007), youth activists like Thunberg are leading the way and using social media to do so.

A main communication tool for Thunberg is Instagram, a social media platform centered around the user's ability to share visual content with accompanying textual captions (Farkas and Bene 2021). While Thunberg has amassed large social media audiences through each of her profiles, her largest audience is on Instagram with over 13 million followers<sup>1</sup>. Instagram is one of the most widely used social media platforms today, especially among young people under 30 years old;<sup>2</sup> yet, visual platforms like Instagram remain understudied (Peng 2021; Rogers 2017).

This article examines Thunberg's rise to prominence through a visual and textual analysis of her first year and a half of Instagram posts from 2018 to 2020. First, we explore how climate change is communicated on social media by youth activists and examine these concepts through the unique case of Thunberg's Instagram. Then, through qualitative content analysis, this study elucidates her communication strategy by applying the concept of "framing" to unpack how she frames climate change as a moral and ethical issue, uses an emotional appeal of hope, and visually frames motivational collective action to mobilize her audience. In the final section of this study, we discuss the implications of our findings to explore the complexities of communicating climate change through social media and the potential impact on future generations.

**Literature Review***Framing and Communicating Climate Change on Social Media*

This study centers on "framing" to understand how Thunberg used Instagram to communicate about climate change during her rise to celebrity. Drawing from social

constructivist perspectives within communication, sociology, and social movement studies, framing refers to the deliberate deployment of culturally shared and constructed meanings to invoke claims on individuals' identity and provoke a sense of responsibility to an underlying cause (Snow et al. 1986; Benford and Snow 2000). Emphasis framing is when a particular aspect of reality is highlighted to promote a particular meaning and make it prominent in a communicating text (Entman 1993). This technique is often used to communicate what is a priority, who is responsible, and how to act (Iyengar 1996). Framing has been used strategically by politicians, journalists, marketers, and leaders of social movements to ensure their messaging resonates with their target audiences.

For activists, framing is a key tool to connect with an individual's values to invoke a sense of obligation towards a common cause (Cabaniss 2019; Zoch et al. 2008). For example, Han and Ahn's (2020) study on narratives used by youth activists to stop the rise of CO<sub>2</sub> found that young people primarily relied on framing as a source of solidarity and moral legitimacy, a tool to delegitimize antagonists and urge action on climate change. The framing process is a significant factor in galvanizing collective action toward social change, especially in the context of issues with social and political dimensions such as the climate crisis (Snow 2013; see also Benford and Snow 2000; Goffman 1974).

The climate crisis surpasses national and disciplinary boundaries and encompasses issues from political controversy and climate denial propaganda to existential threats such as water scarcity and mega-fires (Badullovich et al. 2020). Because media frames have the power to shape public perceptions surrounding contentious issues, researchers have demonstrated that positive framing in news media can increase the salience of issues, legitimize protestors, influence political officials, and increase the likelihood that movements gain public traction (Gamson and Woldsfeld 1993; Haenschen and Tedesco 2020). Yet, the temporal dimensions of climate change clash with media landscapes such as 24-h news cycles that venerate spectacle (Nixon 2011). Unlike environmental crises such as ozone depletion, climate change has not generated a high profile "hot crisis," resulting in sparse and inconsistent coverage over recent decades (Carvalho 2008; Boykoff et al. 2018). In the face of such complexities, communicating in a way that motivates people to address the climate crisis is no simple task.

In recent years, the shift towards Internet-mediated communication has enabled climate stakeholders, most notably youth activists, to increase climate change communication that challenges dominant narratives or illuminates absent coverage from mainstream media (Hopke and Hestres 2018). Indeed, new digital communication channels have altered traditional gatekeeping mechanisms, providing young people platforms to voice concerns about climate change, ask others to join their efforts, and gain power to influence governments and policy (Boulianne et al. 2020). Activists are no longer solely reliant on outside media coverage but can broadcast their own messages, which can directly affect their audience's awareness, emotional resonance, and behavioral intentions toward solutions (Earl et al. 2017; Maher and Earl 2019). While the importance of social media for youth activists to

communicate and organize has been well documented (Boulianne and Theocharis 2018; Earl et al. 2017), we depart from these existing studies through a closer examination into the role of visual-intensive social media platforms in shaping youth social movements. Most recent studies on how the climate movement is framed examine Twitter discourse or coverage by traditional media outlets, while few have examined image-intensive platforms (Pearce et al. 2019). As more users are accessing visual platforms like Instagram for climate information, this study contributes to this critical need.

Young people who have grown up in highly digital, mobile, and visual environments engage in new forms of media production, consumption, and political participation (Andersen et al. 2021; Zhu et al. 2019). A U.S. survey conducted by the Yale Program on Climate Change Communication found that younger people are more likely to engage in climate activism than older generations (Ballew et al. 2020). However, visual social media platforms that dominate the media landscape of young people remain understudied, as evidenced by a meta-analysis of research about climate change communication by Pearce et al. (2019). Their analysis shows the need for more research of visual platforms such as Instagram, as well as in-depth qualitative insights from visually forward social media. In response, our study extends these lines of research by illuminating how Thunberg uses Instagram to frame her message, which is critical to understanding how social media platforms like Instagram are being used to communicate climate change.

In the realm of social movements, broadcasting protest imagery is not new, as this type of visual iconography has been shown to sway public opinion (Mattoni and Tenue 2014). However, due to the prevalence of social media today, visual representations of social movements have become increasingly common, transforming how quickly and intimately protest imagery is seen. Social media has also enabled a greater number of individuals to photograph, publish, and frame social movement imageries. When an individual produces an image, they frame reality by deciding what to include and exclude through an active and intentional process. Research in sociology, media studies, and visual communication has demonstrated that particular constructions and disseminations of social movements images can enhance how protests are seen and understood by the broader public (Phillips 2012). As new forms of digital political communication can enable viewers to identify with protestors and develop interest in the movement (Bucy 2020), studying how Thunberg visually frames the youth climate movement provides an important site for research on the visual communication of climate change.

Instagram strongly amplifies individual celebrities and influencers who visualize details of their personal lives for their followers (Cotter 2019; Farkas and Bene 2021). In a study of politicians' use of Instagram, Peng (2021) found that more personal and positive content tended to receive more engagement than staged, professional content. In the contexts of social movements, however, this turn toward personalization means that an individual can become prominent at the expense of collectivity (Bennett 2012; see also Farkas and Bene 2021; McGregor, Lawrence, and Cardona 2017). While Thunberg's posts seem to adhere to Instagram's algorithmic

bias toward favoring and displaying positive and personal content in the newsfeed, she is an interesting case because she also keeps collectivity at the forefront of her content through displays of mass groups. Thus, examining how Thunberg uses Instagram to communicate about the youth climate movement will advance our knowledge about how visual strategies are used in digital social movements and the unique visual framings brought by the global youth generation. Our study turns to Thunberg as an example of digital communication that pivots the public's attention to the climate crisis by using visuals of her personal experience and positive frames to build a social movement.

### *The Iconic Rise of Greta Thunberg*

Examining Thunberg's rise as a global youth activist leader is made possible because her communication is archived and visible, due to the affordances of social media. Arguably, she is the most well-known contemporary environmental activist (Murphy 2021). Moreover, her eco-celebrity status is uniquely tied to building a youth-led social movement, visible on her social media platforms. Motivated by the hypocrisies she saw between the severity of the crisis and widespread inaction by adults, Thunberg rose to notoriety in August 2018 when she was 15 years old and began her "School Strike for Climate" ("Skolstrejk för Klimatet"). Each Friday, instead of going to school, Thunberg sat in front of the parliament building in Stockholm asking government officials to act. As the Swedish parliamentary election approached on September 9th, 2018, she began to garner local attention; she was featured in the press and joined by other climate activists. Her movement became known as "Fridays for Future."

Thunberg is one of the first political icons to have been fully formed within the new social media ecology, which is argued to be one of the most remarkable political phenomena in recent decades (Olesen 2020). In the year following her initial strike, Thunberg's rise to fame was propelled by international media attention as more people joined her calls to action. Correspondingly, more people began to follow her social media accounts, helping to grow her online audience and spread the hashtags she consistently deployed (e.g., #FridaysForFuture, #SchoolStrike4Climate, and #ClimateStrike). By September 2019, Thunberg's strikes inspired over 6 million protesters in at least 185 countries<sup>3</sup>. Survey data of global strike participants shows that Thunberg is an iconic role model and source of inspiration for youth climate activists (Wahlström et al. 2019 p. 14). Environmental psychologists have called this the "Greta Thunberg effect" referring to how familiarity with Thunberg led to greater collective efficacy beliefs and collective action intentions (Sabherwal et al. 2021). During her rise, Thunberg was nominated for a Nobel Peace Prize<sup>4</sup>; named Time Magazine's 2019 "Person of the Year"<sup>5</sup>; the subject of the documentary *I Am Greta*<sup>6</sup> and invited to speak at high-profile climate summits.

This study extends from scholars across social sciences and humanities who have analyzed Thunberg's speeches and writings (García 2020; Skilbeck 2020); analyzed social media posts that contain hashtags and keywords relevant to the climate movement (Boulianne et al. 2020; Han and Ahn 2020; Jung et al. 2020); and examined

how mainstream media frames Thunberg's message and actions (Ryalls and Mazzarella 2021; von Zabern and Tulloch 2021). Visual information has been shown to help people better process and remember information (Graber 1996), and, in the realm of social movements, motivate viewers toward engagement in protests (Geise et al. 2021). While this study does not analyze the intentions behind Thunberg's posts nor the linkages between communication and engagement, it contributes to this research on Thunberg as a globally influential communicator by attending to her own framing and powerful use of visual communication.

### *Multimodal Qualitative Content Analysis Framework*

Framing is a popular way to understand and analyze environmental communication, particularly climate change (Badullovich et al. 2020; Comfort and Park 2018), because framing has a significant influence on how individuals are motivated to act (Bolsen et al. 2019; Nisbet 2009). Effective use of framing has been shown to motivate behavioral change (Gifford and Comeau 2011), policy action (Ferguson and Ashworth 2021), and can even counter the effects of politicization (Bolsen et al. 2019). However, content analyses of the framing of climate change lack comparability across studies due to the multitude of frameworks used, and more research is needed to understand the framing of both textual and visual elements (Metag 2016). The link between framing, visual media, and social media created by Thunberg is important to study as society attempts to communicate effectively about climate change. Because of this, our content analysis takes a multimodal qualitative approach, deductively applying existing theory-derived frameworks and inductively creating visual categories.

Our deductive and inductive process is adapted from existing climate communication scholarships in two manners. First, we draw from three major frameworks that climate communication scholars have used: climate change frames (O'Neill et al. 2015), emotional frames (Feldman and Hart 2016), and collective action frames (Benford and Snow 2000). These play an important role in climate change communication to mobilize collective action, harness emotional appeals, and shape how people understand climate change. Second, we tailor these frames to our study's context: youth activists on Instagram, by adjusting the existing frames (see Table 1) and by developing visual frames that are pivotal to study visual-intensive platforms such as Instagram, where collective action, emotions, and climate change frames are transmitted along with visuals.

*Climate Change Frames.* To understand how Thunberg frames climate change, our study draws from O'Neill et al.'s (2015) existing framework, which compares how the Fifth International Panel on Climate Change (IPCC) report was framed in social media and traditional media. Because the IPCC and Thunberg are both considered trusted, influential climate authorities who deploy deliberate communication strategies (Leiserowitz et al. 2019), our study builds off this existing framework to partially apply IPCC's frames to examine communication by Thunberg, a climate communicator directing messages at youth audiences.

To examine the external validity of O'Neill's climate change frames, Molder and Clemmons read a random sample of 50 posts to see to what extent the pre-existing categories are mentioned in our study context—Thunberg's Instagram posts. To categorize Thunberg's content most accurately, we included six partially modified climate change categories: *settled science*, *political or ideological struggle*, *disaster*, *moral and ethics*, *opportunity*, and *economic*. These partially modified categories were adjusted to include examples specific to youth activism within the definitions in the codebook (see Table 1) with the aim of capturing the framings of climate action that youth activists tend to use. Through this process, we also found that four categories, *uncertain science*, *role of science*, *health*, and *security* are not mentioned in Thunberg's Instagram content as these categories are more commonly used to describe the IPCC reports and by traditional media outlets. Therefore, we excluded these four content categories.

**Emotional Frames.** Feldman and Hart's (2016) study examines how individuals process climate-related political participation messages through the mediating role of hope, anger, and fear that are considered discrete emotions because they have "motivational functions and behavioral associations" (Nabi 2002 p. 290). Their study found that hope can be an important motivator of engagement toward climate change, anger did not have significant effects on climate activism, and fear can be motivating when paired with hopeful messages. Because there is a need for more research on how emotional appeals are used in climate change communication (Nabi et al. 2018), especially in understanding what types of emotions aid in galvanizing action, our study examined what emotional frames are used in Thunberg's posts: *hope*, *fear*, or *anger*.

**Collective Action Frames.** Research on social movements by Benford and Snow (2000) identify three frames that are used with the aim of mobilizing people toward collective action: *diagnostic framing* refers to identifying and attributing problems, *prognostic framing* proposes a solution or set of specific actions, and *motivational framing* is a call-to-action to engage in collective action. Our study adapted these definitions to be operational about youth climate strikes and coded Thunberg's Instagram posts for these three collective action frames to understand how she uses Instagram content to attempt to mobilize actions. Toward this end, our study explores the following research questions:

**Research Question 1 (RQ1):** *What frames did Thunberg use on Instagram? Specifically, how often does she use:*

- (a) Climate change frames
- (b) Emotional appeals
- (c) Collective action frames

**Visual Characteristics.** Many content analyses that examine visual communication on Instagram focus on visual representations of adult politicians (see Farkas and Bene 2021; Peng 2021). As politicians use Instagram differently than activists, we saw a

Table 1. Codebook and Definitions.

<b>CLIMATE CHANGE FRAMES</b>			
<b>VARIABLE</b>	<b>CODE #</b>	<b>DEFINITION</b>	<b>ADJUSTMENTS</b>
<b>SETTLED SCIENCE</b>	1	The primary focus of the post includes emphasis of the science of climate change and broad expert consensus.	Definition from O’Neill et al. (2015)
<b>POLITICAL STRUGGLE</b>	2	The primary focus of the post is any political power struggle (us vs. them) that must include tension. Most often will be between the desired political outcomes (policy/ law) of youth activists vs. high powered groups.	Definition adjusted to operationalize to fit context of Instagram posts
<b>DISASTER</b>	3	The primary focus of the post frames predicted impacts of climate change as dire, numerous, discussed in detail, and threaten all aspects of life. Impacts will get worse; we are not well prepared. Shows that disaster is occurring.	Definition from O’Neill et al. (2015)
<b>MORAL AND ETHICS</b>	4	The primary focus of the post includes an urgent moral, religious, or ethical call. ME1: for action. Strong mitigation and protection of the most vulnerable. ME2: for no action (e.g., a post about war). Could include Greta’s ideology, moral/ ethical stances on issues, or actions based on moral decisions (e.g., striking).	Definition from O’Neill et al. (2015), adjusted and operationalized to fit Greta Thunberg and Instagram
<b>OPPORTUNITY</b>	5	The primary focus of the post is an opportunity “to re-imagine how we live and invest in co-benefits” as well as opportunities to	Definition adjusted to operationalize to fit context of Instagram posts

(continued)



Table 1. (continued)

<b>CLIMATE CHANGE FRAMES</b>			
<b>VARIABLE</b>	<b>CODE #</b>	<b>DEFINITION</b>	<b>ADJUSTMENTS</b>
<b>ECONOMIC</b>	6	reach new audiences and further spread calls for action, such as through awards, speaking events, meeting high-profile people, etc. The primary focus of the post discusses growth, prosperity, investments, markets. Provides economic costs. Economics implies acting now and details potential economic actions (e.g., divestment).	Definition from O'Neill et al. (2015)
<b>N/A</b>	99	The primary focus of the post is not climate change (and is removed from the sample).	Definition created for posts that did not fit existing categories
<b>EMOTIONAL FRAMES</b>			
<b>VARIABLE</b>	<b>Code #</b>	<b>Definition</b>	<b>Adjustments</b>
<b>HOPE</b>	21	The primary focus and tone of the post includes hope, defined as “yearning for better and believing the wished-for improvement is possible.”	Definition from Feldman and Hart’s (2016) study
<b>ANGER</b>	22	The primary focus and tone of the post includes anger, defined as “a strong feeling of displeasure, aroused by wrong, could include an attack, being upset, uses harsher language.”	Definition adjusted to operationalize to fit context of Instagram posts
<b>FEAR</b>	23	The primary focus and tone if the post includes fear, defined as “an unpleasant emotion caused by anticipation or awareness of danger,	Definition adjusted to operationalize to fit context of Instagram posts

(continued)

Table 1. (continued)

<b>CLIMATE CHANGE FRAMES</b>			
<b>VARIABLE</b>	<b>CODE #</b>	<b>DEFINITION</b>	<b>ADJUSTMENTS</b>
<b>N/A</b>	99	afraid of the future, consequences.” If the post does not contain any of the emotional appeals above.	Definition created to for posts that did not fit existing categories
<b>COLLECTIVE ACTION FRAMES</b>			
<b>VARIABLE</b>	<b>Code #</b>	<b>Definition</b>	<b>Adjustments</b>
<b>DIAGNOSTIC FRAMING</b>	31	The post includes problem identification and direction of attribution (there is problem / specific group/organization or individual is responsible) - no mention of collective action or specific solution / actions to be taken	Definition from Benford and Snow (2000), adjusted and operationalized to fit Greta Thunberg and Instagram
<b>PROGNOSTIC FRAMING</b>	32	The post includes any specific strategy to mitigate climate change consequences, outside of collective action/striking	Definition from Benford and Snow (2000)
<b>MOTIVATIONAL FRAMING</b>	33	The post includes a “call to arms” rationale to engage in collective action. Uses of “we,” “our,” “collective,” “movement,” “strike,” and “mobilization” indicate motivational framing.	Definition from Benford and Snow (2000), adjusted and operationalized to fit Greta Thunberg and Instagram
<b>N/A</b>	99	If the post does not contain any of the social movement frames above.	Definition created for posts that did not fit existing categories

need to recognize these different approaches by understanding what visual characteristics are tailored to the goals of collective movement building and are specifically used by Thunberg as she builds a youth climate activist movement. Examining how Thunberg both visually and textually framed her messages on Instagram helps us understand how she catapulted the youth climate movement to mainstream attention. Toward this end, our study explores the following research question:

**Research Question 2 (RQ2):** *What kinds of visual characteristics do Thunberg’s Instagram posts contain?*

**Table 2.** Intercoder Reliability Check.

Variable	Percentage Agreement	Scott's Pi	Cohen's Kappa	Krippendorff's Alpha
Climate Change Frame	93.5	.85	.85	.85
Emotional Frame	96.7	.85	.85	.86
Collective Action Frame	90.3	.75	.75	.75
Facial Expressions	93.5	.81	.81	.82
People in Content	96.7	.87	.87	.87
Protest Sign	1.00	1.0	1.0	1.0

**Table 3.** Frequency and Percent of Climate Frames Used.

	Frequency	Percent
Moral / Ethics	219	55.7%
Opportunity	129	32.8%
Political Struggle	23	5.9%
Disaster	11	2.8%
Settled Science	9	2.3%
Economic	2	0.5%
Total	393	100%

**Table 4.** Frequency and Percent of Emotional Frames Used.

	Frequency	Percent
Hope	312	79.4%
Anger	51	13.0%
No emotional frame	16	4.1%
Fear	14	3.6%
Total	393	100%

## *Method*

*Data Collection.* This study manually archived every Instagram post published on Thunberg's Instagram profile. The date range starts from Thunberg's first post in June 2018 through the end of January 2020, resulting in 502 total posts. Molder and Clemmons collected the data, including the post's permanent link, a screenshot of the post at the time of collection (both image and textual caption), and the date of

**Table 5.** Frequency and Percent of Collective Action Frames Used.

	Frequency	Percent
Motivational framing	248	63.1%
No collective action framing	82	20.9%
Prognostic framing	32	8.1%
Diagnostic framing	31	7.9%
Total	393	100%

the post, within two separate cycles—August 2019 and January 2020—to ensure all posts were included. Molder also checked all post links in August 2021 and found that all posts collected in both phrases for this study were still live on Instagram.

To focus on posts directly related to climate action, we removed 77 posts from the sample that did not relate to climate change issues, such as personal family content, travel, or celebration of holidays. We also removed posts written in the Swedish language that could not be easily understood using Google Translate. As English is a globally dominant language (Pennycook and Candlin 2017), her switch to English also signified her intent to reach an international audience. Our analysis only includes images and albums that refer to either a single, still image, or an album made up of multiple images or videos grouped together in a single post. We removed posts that included moving images only, such as videos and GIFs, because their different visual nature requires different methods of analysis (Farkas and Bene 2021). Thus, we removed an additional 32 video posts. Our final sample resulted in 393 posts ( $N = 393$ ).

**Qualitative Content Analysis.** To answer our research questions, we apply a combination of inductive and deductive qualitative content analysis (Fereday and Muir-Cochrane 2006; Neurendorf 2019). While pioneering work by Russman and Svensson (2016) provides initial codebook recommendations for studying politicians' use of Instagram, there is still no adaptable, one-size-fits-all model for coding Instagram posts, especially considering the visual elements (Gerodimos 2019). Because of this, our study combines the use of directed content analysis of the textual elements by using theory-derived existing categories (Hsieh and Shannon 2005) with an inductive content analysis approach by inductively creating manifest visual categories based on what is seen within the posts themselves (Drisko and Maschi 2016).

**Framework and Codebook Criteria.** We first used a deductive, directed content analysis method to develop our codebook for the textual elements of the posts that include the caption and hashtags. Using existing theory-derived frameworks allowed us to review the posts based on shared definitions and to validate and conceptually extend these understandings to the realm of youth activism and Instagram (Hsieh and Shannon 2005; Schreier 2019). To do so, we used frames from existing codebooks in three categories including *climate change frames* (O'Neill et al. 2015), *emotional frames* (Feldman and Hart 2016) and *collective action* (Benford and Snow 2000) (see

Table 1 for operational definitions of each category). We also created a “not applicable” or “N/A” variable for each frame, for posts that did not fall into any of the defined categories but could still be coded within the other frames. For example, a post could contain a “*disaster*” climate frame and “*anger*” emotional frame but not include any type of collective action frame. Posts that did not include any mention of or reference to climate change were excluded entirely from the sample. This directed, deductive coding process revealed how Thunberg frames climate change via emotional appeals and an emphasis on collective action, placing Thunberg’s Instagram communication within larger climate communication and social movement frameworks.

Next, we followed Russman and Svensson’s (2016) call to pivot from only using text-based analysis of social media channels and attend to visual elements. Drawing from inductive coding method best practices (Fereday and Muir-Cochrane 2006; Neurendorf 2019), Molder and Clemmons reviewed a random sample of 50 posts and developed three categories for visual features, including the number of people present in images (individual, groups, or no people), the presence of protest signs (yes or no), and facial expressions (smiling, frowning or neutral). We used an inductive method to develop the visual characteristic portions of the codebook that were chosen based on visual patterns that were common but not ubiquitous across many of Thunberg’s posts.

**Coding Procedure.** Molder and Clemmons performed an initial pretest of 35 Instagram posts from Leonardo DiCaprio, another celebrity climate change activist. During the pretest, we iteratively discussed their results and further modified the variable’s operational definitions to find consensus on discrepancies. We also developed coding rules for how each Instagram post would be categorized and coded. For instance, we followed the criterion in content analysis to make each category mutually exclusive and collectively exhaustive (Schreiner 2019) to capture one dominant frame at a time; so, if a post contained multiple categories in each frame (such as both anger and hope), the most dominant category was selected using the post content overall, including the caption text, hashtags, and image. Molder and Clemmons reached inter-coder reliability (ICR) scores above .70 during the pretest before coding the full sample.

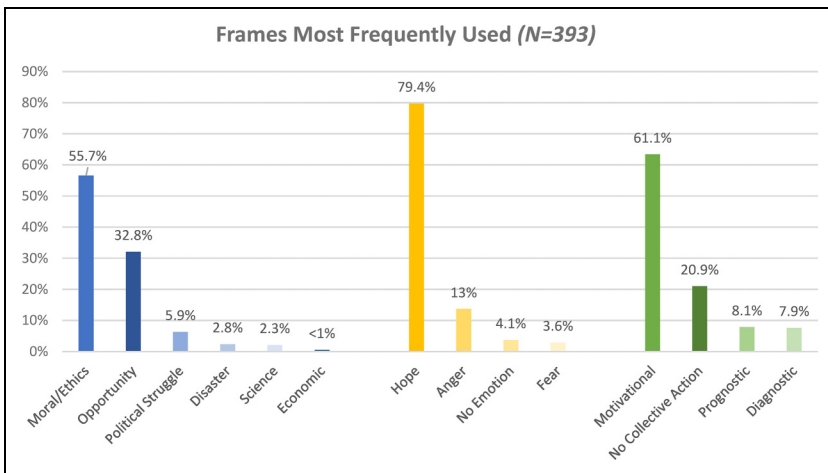
Following the pretest, we coded the entire sample of Thunberg’s Instagram posts ( $N = 393$ ) over the course of three weeks. Molder and Clemmons regularly checked in and calculated ICR metrics using Freelon’s (2010) ReCal intercoder reliability calculation web service to make sure they agreed by reaching Krippendorff alpha levels of 0.70 or higher (Krippendorff 2004). If any variable’s reliability was below 0.70, we would discuss discrepancies and come to an agreed-upon decision. Following the coding of the entire sample, we met to explore the frequency results of each category and identify patterns and relationships between categories. This created the foundation from which to analyze and understand how Thunberg uses Instagram and to see how this influential climate communicator frames climate change, collective action, emotional appeals, and visual communication.

### Findings

Overall, Thunberg most frequently frames climate change as an issue of morality and ethics, uses an emotional appeal of hope, and frames collective action through a motivational lens (see Figure 1).

**Climate Change Frames.** In adapting six climate change frames to code for the most common theme, we found that Thunberg most often uses the *morality/ethics* frame (55.7%) and often utilizes the *opportunity* frame (32.8%). Following O’Neill et al. (2015), the *morality/ethics* frame is “an explicit and urgent moral, religious or ethical call for action” (p. 381) and the *opportunity* frame implies that climate change offers opportunities “to re-imagine how we live and invest in co-benefits” (p. 381). Many posts coded as *morality/ethics* were about her “School Strikes for Climate” when she sat in front of the Swedish Parliament building rather than going to school. These posts were coded as such because she often provided personal, moral, and ethical reasoning behind *why* she chose to strike from school or *why* she chose environmentally-minded actions, such as taking a sailboat across the Atlantic Ocean instead of flying (see Figure 2). Thunberg’s continued use of a *morality/ethics* frame aligns well with her goal to motivate action on climate change as morality constructs are strong predictors of engaging in collective action (Goldberg et al. 2020; Sabucedo et al. 2018).

One third of Thunberg’s posts frame climate change as an *opportunity* (32.8%). Examples of *opportunity* frames highlighted attendance of high-profile events, where she asked powerful politicians to rethink society, especially economic systems, and capital growth. Thunberg rarely used *disaster* (2.8%) or *settled*



**Figure 1.** Percentage of frames used on @GretaThunberg’s Instagram June 2018 – January 2020.

science (2.3%). It is notable that O'Neil et al. (2015) found both *opportunity* and *morality/ethics* frames were relatively rare in the IPCC report. Likewise, frames frequently used in the IPCC report such as *settled science* were rare in Thunberg's posts. Instead, Thunberg's messages posit a view of climate change as an ethical/moral dilemma that might offer an opportunity for just and equitable societal transformation.

**Emotion Frames.** Of the three emotional frames we coded for (hope, fear, and anger), most of Thunberg's posts used *hope* (79.4%) as opposed to *anger* (13.0%) or fear (3.6%). Following Feldman and Hart (2016), *hopeful* posts were coded as such because they focused on Thunberg's personal achievements, the successes of the movement, and calls for collective action. As emotions play an important role in climate messages (Gustafson et al. 2020), Thunberg's deployment of hope, fear, and anger all contribute to the persuasiveness of her posts. However, as opposed to eliciting fear or anger about climate impacts that feel beyond one's control, Thunberg's Instagram communicates *hope* as a practice of empowerment channeled toward a better future (see Figure 3).

*Hopeful* posts do not focus on the challenges or negative consequences of climate change but focus on preventative and proactive actions. Thunberg uses Instagram to communicate her power and agency by documenting her Friday strikes and inviting others to join. When they join, she celebrates by citing the number of people and countries who have joined, uses exclamation points, and thanks everyone for participating



**Figure 2.** Example of a post coded as “morality and ethics” framing. @GretaThunberg on Instagram.



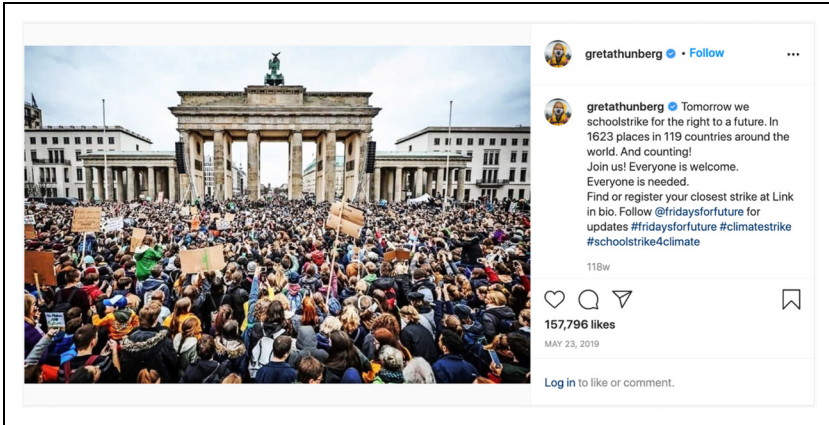
Figure 3. Example of a post coded for as “hopeful” framing. @GretaThunberg on Instagram.

(see Figure 4). Thunberg uses *anger* appeals more so when giving speeches directed at adult audiences who are not taking responsibility or action.

*Collective Action Framing.* The most common collective action frame was *motivational framing* (63.1%), referring to a call-to-action or rationale for collective engagement (Benford and Snow 2000). Thunberg often includes a call-to-action for others to join, providing specific details and instructions such as when, how, and where to strike. In her written captions, Thunberg uses pronouns such as “we” and “us” that focus on the collective movement rather than individuals. Most of the *motivational framing* focuses on what she and others can do to address the climate crisis. Her messaging underscores how every person needs to take action to make a difference. She consistently encourages others to join the protest with phrases like “everyone is welcome, everyone is needed” (see Figure 4).

Interestingly, Thunberg seems to communicate using different frames when she is referring to adults and those who she sees outside of the movement, suggesting that she sees her Instagram followers as allies. When communicating directly with her Instagram followers, her content scarcely uses *fear* or *anger* the way she does in her public speeches at high-profile events, such as the UN Climate Summit. When she did use *anger* or *fear* framing, the posts were often directed at people directly responsible for climate inaction, such as specific politicians and “older generations.” Likewise, Thunberg seldomly uses *diagnostic framing* (8.1%)—diagnosing the issues of climate change—or *prognostic framing* (7.9%)—directly attributing or blaming certain





**Figure 4.** Example of a post coded for as “motivational” framing. @GretaThunberg on Instagram.

groups/individuals. Yet, in the times when she did attribute blame, it was directed at the problems of climate change caused by “older generations,” adults who created the climate crisis (see Figure 5).

*Visual Characteristics.* We also coded for manifest visual characteristics to analyze the content itself, such as facial expressions within the photo, the number of people present in photos, and the use of protest signs. This helped us examine how Thunberg visually depicted social structures and relations as she built a social movement.

*Number of People in Content.* From the start of her Instagram in June 2018 through March 2019, most of her posts contained a single individual, typically Thunberg by herself (47%). From April 2019 through January 2020, Thunberg’s posts had slightly more group images (46%) than images with individuals (40%). This visually illustrated a shift as Fridays for Future strikes grew in numbers and built momentum over the year and visually illustrates the hopeful and motivational collective action message frames.

*Facial Expressions.* Facial expressions serve as important nonverbal cues. In the context of visual communication, visual stimuli like human faces and expressions elicit emotional responses that span time and culture (Olesen 2013). Showing faces can also help personalize content and cultivate social relationships with social media followers (Peng 2021). This is particularly effective on a platform like Instagram, which is characterized by a prevalence of selfies (Souza et al. 2015). We coded for smiling, frowning, or neither smiling nor frowning (neutral) facial expressions. Thunberg and others pictured in the images smile more often in the beginning of her Instagram account posts, with 70% of posts featuring smiling, 20% neutral, and only 10% frowning. Thunberg’s smiles can be seen as a powerful signal not only to other climate activists but also to corresponding media stories, depicting early

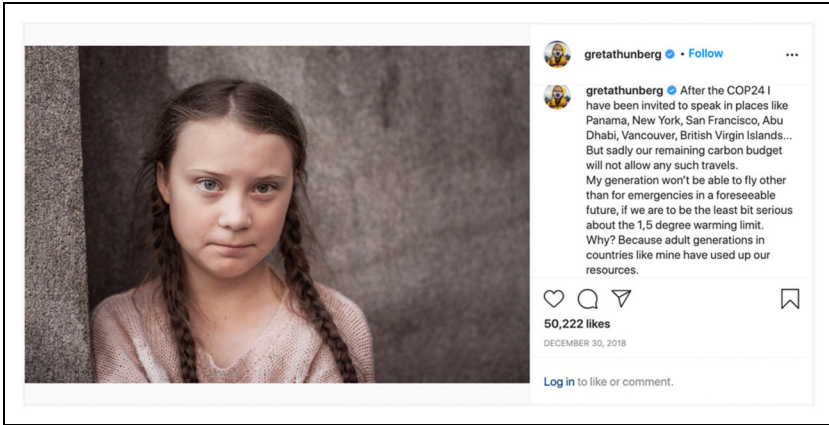


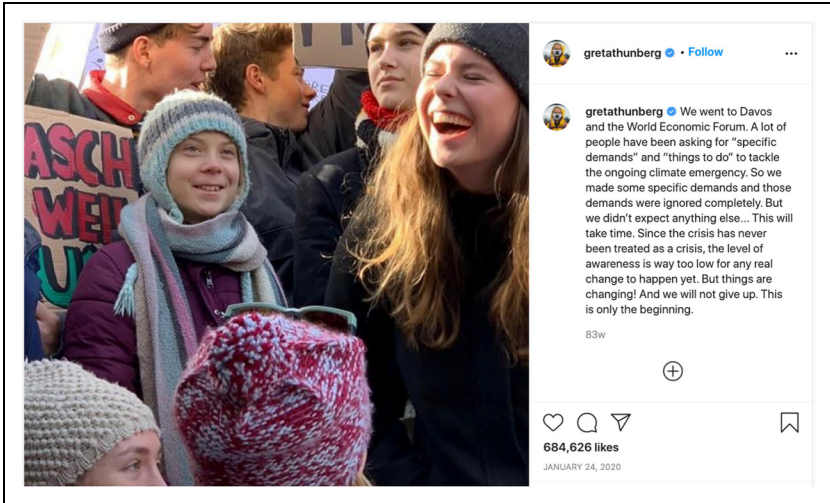
Figure 5. Example of a post using “prognostic” framing. @GretaThunberg on Instagram.

optimism of the growing youth climate movement. Because positive news framing influences participants’ feelings of efficacy, especially for younger generations (Haenschen and Tedesco 2020), modeling positivity as a leader is critical. However, starting in the second half of the coded sample in May 2019, Thunberg starts to smile slightly less frequently (around 52% of her posts) which coincides with increased media attention to strike events (see Figure 7).

*Protest Signs.* The majority of Thunberg’s posts showcase her “Skolstrejk for Klimatet” sign (55%). She seems to be strategic about when she includes her sign and when she does not, such as using it to indicate that she is doing a Friday strike, to document her weekly protests, and to remind others of the larger goals of the movement.

Overall, Thunberg is consistent in how she frames climate action and communicates with her audience. Initially, Thunberg’s Instagram posts focused on her Friday strikes in Sweden. As the Fridays for Future movement and her Instagram audience grew, she used her platform to stress the necessity of urgent action on climate change by appealing to a sense of morality and ethical duty and using hopeful calls to action to ask others to join. She maintained a clear message of collective action as a moral imperative to combat the climate crisis, showcasing global strikes with large audiences as hopeful events for both participants and onlookers. Visually, she showcased movement building through initial images of Thunberg striking alone holding the same protest sign every Friday. This gradually evolved to images of larger groups striking, the use of the protest sign as a visual icon to signify collective action, and the showcasing of growing support and positive social relationships with peers smiling while engaging in action.

Our paper differs from existing digital social movement studies that tend to examine text-intensive platforms and their subsequent textual frames. Through an examination of both the visual (RQ2) and nonvisual (RQ1) frames, we showed that nonvisual



**Figure 6.** Example of a post showcasing a group. @GretaThunberg on Instagram.

textual frames go hand in hand with visual frames. For instance, smiling and showcasing her protest sign appear in most of the content, alongside motivational framing of collective action and emotional appeals of hope. Our study illustrates that mobilizing social protest online requires a combination of different forms of communication and should be examined as such.

## Discussion and Conclusion

This research explores how Thunberg uses different visual and textual frames to communicate about the global youth climate movement on Instagram. After examining Thunberg's Instagram posts ( $N=393$ ), we found that she frames climate change as a moral and ethical issue, uses a hopeful emotional appeal, and uses motivational framing to call others to join the movement. This study contributes to the fields of visual and climate change communication and extends work on the ways in which social media is utilized by youth in global social movements. Through our combined deductive and inductive qualitative analysis, we viewed multiple aspects of each post, which also provided new insights into the benefit of taking a multimodal approach to analyze both textual and visual elements of social media messages.

While progress has been made in the past decade to understand how to communicate climate change effectively (Moser 2016), remaining challenges include how to speak to a growing sense of hopelessness and turn awareness into action. Our findings confirm what previous studies have shown; framing climate change through a lens of morality (Bain and Bongiorno 2020; Wolsko et al. 2016) and hope (Marlon et al. 2019; Ojala 2015) are major strategies that activists use not only in attempts to mobilize action but also on digital platforms such as Instagram. We add to this literature by showing how

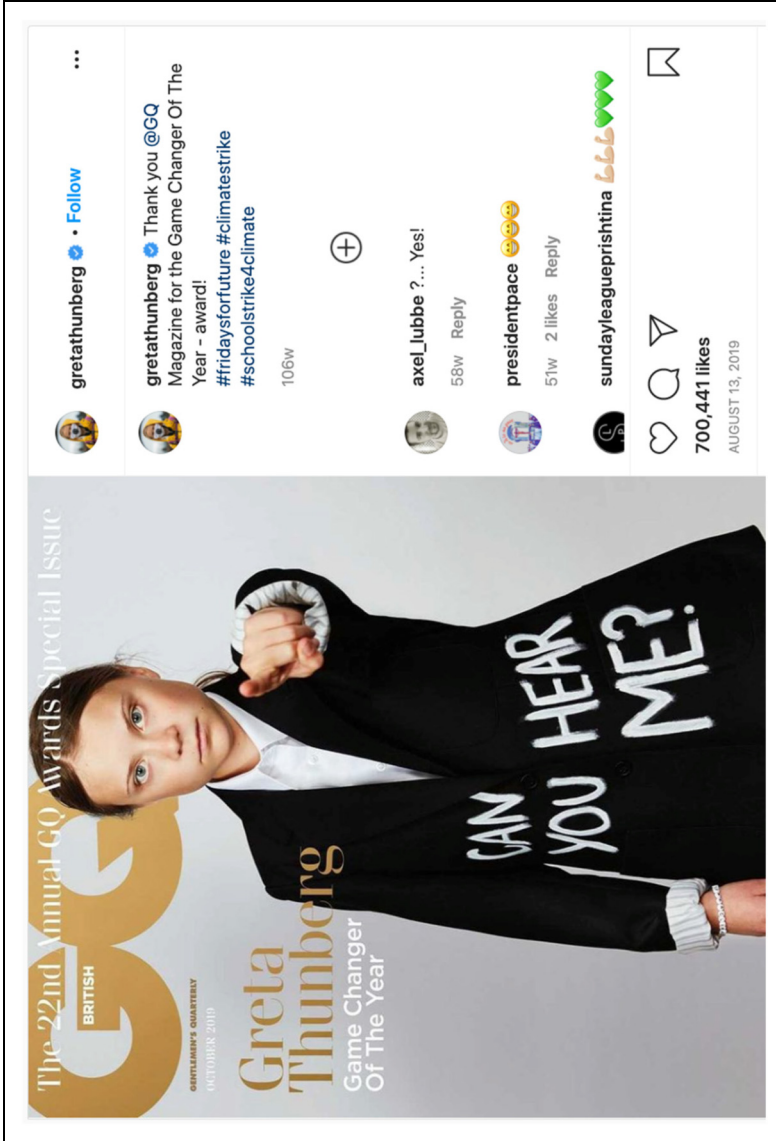


Figure 7. Example of a post showcasing a frowning facial expression. @GretaThunberg on Instagram.





twenty-first-century digital tools to frame her own messages to inspire other young people with motivational collective action and hope. This echoes Nahon and Hemsley (2013)'s work showing that content that elicits positive and hope-oriented emotions are more likely to spread than content that does not. Thunberg also relies on moral and ethical framing that has been shown to be an effective form of political communication and persuasion (Feinberg and Willer 2019).

While this is an important step toward understanding how Thunberg communicates, more research is needed beyond a single social media platform and activist. In the case of Thunberg, comparing the framing of Instagram to other communication forums, such as in-person speeches, might lead to insights on how communication strategies shift based on audience and medium. More research is also needed to understand the effects of this type of framing on audiences themselves. To do so, future studies could include engagement metrics of posts (such as likes, comments, or views) to quantitatively analyze the effects.

As the consequences of climate change will certainly affect future generations, who are increasingly turning to social media to amplify their voices and enact political change, it is critical to continue examining the complex relationship between social media and social movements in contemporary global politics. As a major figure in contemporary climate communication, Thunberg's communication style presents an example for youth activists what influential communication looks like, which in turn can provide communication scholars and practitioners insights into what frames younger generations may use on digital media to vocalize their needs and visualize their actions across political topics.



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### **ORCID iDs**

Amanda L. Molder  <https://orcid.org/0000-0001-8429-7339>  
Kaiping Chen  <https://orcid.org/0000-0002-5864-5333>

### **Author Biographies**

**Amanda L. Molder** is a doctoral student in the Department of Life Sciences Communication at the University of Wisconsin-Madison. Amanda's research examines the intersections between environmental and science communication, social media, and social movements. Specifically, she studies how science topics are visualized on social media and within films and how

people communicate, organize, and motivate action on environmental issues like climate change. For more information, see her website: <https://www.amandamolder.com>.

**Alexandra Lakind** is completing a doctorate at the University of Wisconsin-Madison in Curriculum and Instruction and Environment and Resources. Alexandra's dissertation focuses on contemporary climate activism exploring how children are positioned in the political project of addressing climate change and how social actions around climate change affect ideas about children. Alexandra's publications centered on social media analyses of youth climate activists can be found in the forthcoming book *Literature for Change: How Educators Can Prepare the Next Generation for a Climate-Challenged World* (eds. Rebecca Young) and on the online magazine *Edge Effects*: <https://edgeeffects.net/>.

**Zoe E. Clemmons**, (MS, Colorado State University), is a digital engagement associate at Barefoot Public Relations in Denver, CO. Her research examined the intersections of social media, politics, gender, and climate change activism. **Kaiping Chen** (PhD, Stanford University) is an assistant professor in Computational Communication at the Department of Life Sciences Communication of the University of Wisconsin–Madison. Her research applies data science methods and interviews to study public deliberation, science communication, and information campaigns in the United States, China, and Ghana. Kaiping's works were published in flagship journals across disciplines including *American Political Science Review*, *Journal of Communication*, *New Media & Society*, *Public Opinion Quarterly*, *Public Understanding of Science*, *Harvard Kennedy School Misinformation Review*, *PNAS*, and among other peer-reviewed journals. For more information, see her website: <https://lsc.wisc.edu/facstaff/chen-kaiping/>.

## Notes

1. See Thunberg, G. [[@gretathunberg](https://www.instagram.com/gretathunberg/)] (n.d.) Posts. [Instagram profile]. Retrieved from <https://www.instagram.com/gretathunberg/>.
2. See Auxier, B., Anderson, M. (2021, April 7). Social Media Use in 2021. *Pew Research Center: Internet, Science & Tech*. Retrieved from: <https://www.pewresearch.org/internet/2021/04/07/social-media-use-in-2021/>.
3. See Taylor, M., Watts, J., Bartlett, J. (2019, September 27). Climate crisis: 6 million people join in latest wave of global protests. *The Guardian*. Retrieved from <https://www.theguardian.com/environment/2019/sep/27/climate-crisis-6-million-people-join-latest-wave-of-worldwide-protests>.
4. See Carrington, D. (2019, March 4). Greta Thunberg nominated for Nobel peace prize. *The Guardian*. Retrieved from <https://www.theguardian.com/world/2019/mar/14/greta-thunberg-nominated-nobel-peace-prize>.
5. See Greta Thunberg: TIME's Person of the Year 2019 | Time Magazine. Retrieved from <https://time.com/person-of-the-year-2019-greta-thunberg/>.
6. See I Am Greta: Watch At Home | Dogwoof. (2020). Retrieved from <https://www.iamgreta.film/>.

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