# Community and identity in environmental activism on Twitter: A discourse-based approach

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**Abstract**

Online communities play an integral role in understanding environmental activist identities. Using #climatestrikeonline tweets as a case study we discuss the benefits of applying the framework of digital pragmatics (under the umbrella of discourse analysis) to study the repositories of online media texts that share the attributes of both interpersonal and mass communication (Koteyko, Nerlich, and Hellsten 2015). Our analysis draws on two arguments central to discourse-based approaches: (1) that social meanings must be analysed across different modes (e.g., by including visuals) and (2) that analysis of digital artefacts needs to consider both their content features and the contexts in which they emerge. We demonstrate how using digital pragmatics to study networked communication about climate change can help us understand how engagement and collaboration are achieved in online communities of practice.

## 1   Introduction

The contemporary environmental movement arose in the late 19th – mid-20th century mainly provoked by concerns in Europe and the United States (US) about the impacts of the Industrial Revolution on the countryside and personal health (Elliott 2022). When 20 million people took to the streets across the US on 22 April 1970 to protest environmental destruction in what was the first Earth Day, few could have imagined that this would become the largest environmental movement in history (Yeo 2020). In more recent years, another environmental movement has been especially successful in keeping the climate relevant even as other crises have raged (Christofaro 2022). Fridays For Future (FFF), a youth-led and organised movement that began in August 2018, after then 15-year-old Greta Thunberg and other young activists sat in front of the Swedish parliament every school day for three weeks to protest inaction on the climate crisis, is now a major environmental movement (Haunss and Sommer 2020). FFF was named United Nations Environment Programme (UNEP) Champion of the Earth in 2019 which represents the highest level of recognition (UNEP 2022).

From the very early days of the movement, founder Greta Thunberg documented her activities on social media including Instagram and Twitter and tagged posts with #FridaysForFuture. The hashtag went viral making the success of the FFF movement a testament to the growing importance of social media for environmental activism. The role of social media in environmental activism was further underlined by the recent Covid-19 pandemic when digital protest was temporarily the only option to express an environmental identity and connect to the environmental community during the lockdowns (Zeller 2021). Amid the outbreak, FFF used social media as a replacement for traditional in-person activism asking people to stay safe, avoid gatherings, and post photographs of themselves at home holding protest signs tagged with #climatestrikeonline (Pomeroy 2020). FFF continues to recognise that many people may be unable to strike in person for various reasons and "[s]triking indoors with a sign and hashtag on social media (like #FridaysForFuture; #Climatestrikeonline, #Digitalstrike) totally counts" (Fridays For Future 2022).

With the proliferation of social media environmental activism, research on such forms of activism has also grown with many researchers advocating for and applying quantitative approaches to study the vast volume of content. While these studies have contributed much to our understanding mainly of the effectiveness of environmental organisations in using social media to mobilise action and encourage participation in pro-environmental activities, other research questions tend to be neglected in such studies. The aim of this paper is to show the unique contribution of qualitative approaches, and particularly discourse analysis, towards understanding how environmental activists build and sustain a community on social media. To do this, we analysed 46 tweets posted on Friday, 13 March 2020 which marks the first online climate strike and on Friday, 12 March 2021 which marks a one-year anniversary from the day the first online protest was held.

The paper is structured as follows. Next, we review existing literature about social media and environmental activism, which has been predominantly of quantitative nature. We then reflect on how the concepts of community and identity have been studied in the context of environmental activism and on social media. Following that, we describe our methods of data collection and data analysis and the ethical strategy of our study. We discuss our findings while highlighting the contributions of a discourse analysis approach to understanding environmental identity and community building on social media. We conclude with a summary of the key findings, the key benefits and pitfalls of using the framework of discourse analysis to analyse the vast and changeable repositories of digital media texts, and recommendations for future research.

## 2   Literature review

### 2.1 Quantitative studies of environmental activism on social media

Research on social media and environmental activism has been growing with many studies adopting quantitative and often also deductive approaches to study the large volumes of mainly textual content, which has led to recommendations to conduct more qualitative studies and include non-textual content in future research (see e.g., Pearce et al. 2019). This growth in quantitative analyses of social media and environmental activism is not unexpected when seen in the broader context of a quantitative, "Big Data" turn in studies of climate change and the media (Lahsen 2021) and the prestige that quantitative approaches have historically enjoyed over other ways of analysis (Daston and Galison 1992). In what follows, we review examples of this type of research without aiming to be exhaustive, but instead to show the types of questions that are typically explored with the aid of such approaches. These are questions which mainly focus on assessing the effectiveness of environmental organisations in using social media to mobilise action and encourage participation in pro-environmental activities.

In a recent study of how 18 global environmental organisations framed climate change on Facebook as part of their efforts to mobilise the public to act on the issue, Tien Vu and colleagues (2021) used a deductive approach to quantitative content analysis. Framing was understood as how the problem was defined, what solutions were proposed, and who was identified as responsible for causing the problem (see e.g., Entman 1993). The frames for which the data was coded - "diagnostic", "prognostic", or "motivational" - were adopted from existing research on social movement frames (see Benford and Snow 2000; Snow and Benford 1988). "Diagnostic" frames were defined as identifying something as problematic and in need of change; "prognostic" as proposing a solution to a diagnosed problem; and "motivational"

frames as encouraging people to act. "Diagnostic" frames were found to be predominant, leading Tien Vu and colleagues to recommend greater use of "motivational" frames.

Another study which used a deductive approach to quantitative content analysis but did not adopt framing theory (see e.g., Entman 1993) explored tweets hash tagged with #SchoolStrike4Climate and posted on March 15, 2019, which marked the first time that the event started by Greta Thunberg drew over 1 million protesters (Boulianne et al. 2020). This study was interested in the function of tweets and the categories that were used for coding the tweets" functions were borrowed from existing research – "information sharing", "opinion expression", "mobilization", and "assigning blame". The study found that the main function of the analysed tweets was "information sharing" in terms of documenting the protest or an event related to the strike, sharing news reports related to the strike or more general environmental information. Similarly, to Tien Vu and colleagues, a missed opportunity to share more "mobilization" tweets was noted.

A much earlier study by Merry (2013) which analysed tweets posted by 26 US-based, national-level environmental organisations during the 2010 oil spill in the Gulf of Mexico was also interested in framing – particularly, how these organisations framed the issue but employed a more inductive version of quantitative content analysis. Tweets were coded for the presence of hashtags and hyperlinks as well as "blame attribution" and "policy solution" frames. In addition to these two broader frames informed by seminal definitions of framing (see e.g., Entman 1993), tweets were also coded for the inductively derived sub-frames "blame for causing the spill", "blame for manner of responding to the spill", "blame for actions unrelated to the spill", "renewable energy as a solution", "climate legislation as a solution" and "banning offshore drilling as a solution". Merry (2013) found that slightly more tweets framed the issue through a "policy solution" than a "blame attribution" frame, which was interpreted as overall effective in terms of efforts to mobilise people to act.

While all the above examples focused on textual content, Pang & Law's (2017) analysis of tweets shared during World Environment Day 2015 is a good example of how deductive quantitative content analysis studies can pay attention to visuals. Tweets were coded for the presence of hashtags and URLs, and all visuals were analysed for three types of persuasive rhetoric informed by Aristotle's work - ethos, pathos, and logos. Ethos was understood as references to a specific type of communicator (e.g., a politician) and comments on their credibility and trustworthiness. Pathos was operationalised as tweets containing emotional and affective appeals (e.g., happiness, sadness, fear). Logos referred to tweets containing facts and statistics. The main goal of the study was to understand which of these content features is associated with retweeting as a sign of participation in the movement; and found that the use of URLs was most significantly and positively associated with retweeting.

We conclude this overview of studies adopting quantitative approaches with a recent semantic network analysis of tweets posted between 2017 and 2019 with "neutral" hashtags such as "#climate", "#environment", and "#climatechange" (Suitner et al. 2022). By applying a community detection procedure on the collected data, a ranked list of communities (or topics) was identified showing that the top is occupied by a "climate action" community – that is, "#climateaction" and related hashtags. The analysis also showed that use of this and related hashtags peaked in 2019 and especially around the first School Strike for Climate and the September 2019 climate strikes also known as the Global Week for the Future, both inspired by the work of Greta Thunberg. These findings were interpreted by the authors as a sign of a shift from a descriptive approach to climate change towards an action-oriented discourse of climate change.

Such studies have significantly contributed to our knowledge about the spread and effectiveness of action-oriented discourse on social media. They have also helped us to better understand how well environmental organisations have manged to mobilise people to act with the aid of social media. Yet, other no less important questions have mostly been left un- or under- explored, and we turn particularly to the questions of how environmental activists build an (environmental) identity and a community in social media spaces. The topics of identity and community, as we show in the following two sections, have been key both in the field of environmental activism and in research on social media use.

### 2.2 Identity, community, and environmental activism

The study of identity - which can be broadly described as a way of organising information about the self - has proved important and useful for understanding environmental activism. Environmental identity, sometimes referred to interchangeably as ecological identity (e.g., Lei 2021; Young et al. 2020), is the portrait of oneself when dealing with nature-related issues (Clayton 2003). It has emerged as a new dimension of identity research along with the more traditional aspects of gender, nationality, religion, and ethnicity (Clayton 2003; Lei 2021). Studies of environmental identity recognise that it is fluid, changeable, context-sensitive, and the result of interaction, and both a product based on personal history, connection, and social influences, as well as a force that compels certain types of behaviour towards the environment (Clayton 2003; Young et al. 2020).

Research has consistently identified two types of environmental identity – "identification with nature" (e.g., Mackay et al. 2021; Nisbet et al. 2008) and "politicised environmental identity" (e.g., Klandermans 2014; Mackay et al. 2021) which are differently linked to pro-environmental personal behaviour and environmental activism. "Identification with nature" which refers to a subjective sense of oneness with the natural world has been found to be more strongly associated with individual-level pro-environmental behaviour such as recycling (Schmitt et al. 2019). "Politicised environmental identity" understood as identification with a group or social movement defined by a collective struggle to protect the environment has, in contrast, been more strongly associated with environmental activist behaviour including signing petitions, and attending protests (Schmitt et al. 2019).

Much like other identity types (e.g., national, ethnic), environmental identity can provide us with a sense of connection, of being part of a larger whole, a sense of recognition of similarity between ourselves and others (Clayton 2003), and thus, is closely related to the concept of community. Research by Forsyth and colleagues (2015) has shown that individuals whose sense of identity is strongly based on the community defined as the geographical place where people live, are more likely to engage in pro-environmental behaviour such as protecting local waterways and other natural resources . Studies have also found that community factors, where the community is, again, understood in terms of place of residence, can shape personal behaviour towards the environment (Owen et al. 2010). Studies have, for example, shown that living in a community where other residents either strongly share one's preferences towards the environment or have strongly different preferences towards the environment accentuate an individual's self-identification as an environmental activist (Owen et al. 2010).

### 2.3 Identity, community, and social media

Social media have emerged as significant sites for identity construction and expressing alignment or dis-alignment with particular communities be they national or other (e.g., Georgalou 2017, 2021; Page 2012). Much like research on environmental identity, (linguistic)

studies of identity on social media have adopted a social constructionist approach to identity according to which identity is dynamic, flexible, contextual, and interactional (Benwell and Stokoe 2006). Research on identity and social media has focused on the processes of social identification with others that can be derived from membership(s) of social categories (e.g., teams, organisations, opinion-based groups, or, in this case, an environmental movement). As Bucholtz and Hall (2005, 586) have argued "[i]dentity does not emerge at a single analytic level - whether vowel quality, turn shape, code choice, or ideological structure - but operates at multiple levels simultaneously" and it is to be studied at an interactional level, because "it is in interaction that all these resources gain social meaning".

Some social media research has de-emphasized the role of identity in online collective action in favour of the emergence of networked movements (e.g., Bennett and Segerberg 2012; Loader and Mercea 2012). The argument is that such networks are "connective" rather than "collective" because to act individuals only need online connections without explicitly constructing a common identity (Bennett and Segerberg 2012). Much research has also focused on better understanding social media as a medium for creating discourse communities with particular features and communicative routines. While the concept of discourse community remains contested (e.g., Kim and Vorobel 2015), it can be broadly defined in terms of shared expectations among members, shared discourse conventions and use of lexical items, and shared goals (e.g., Bizzell 1982; Swales 1990).

Against this background, we pose the following research questions:

- RQ1: How do the users of #climatestrikeonline construct an environmental identity and connect to an environmental community on social media?
- RQ2: What can the framework of discourse analysis, specifically digital pragmatics, contribute to the understanding of environmental campaigners' digital practices?

## 3 Methodology

### 3.1 Data collection
During the Covid-19 pandemic, hashtags took on an even more central role in connecting environmental activists and #climatestrikeonline became "the new home for environmental activism" (Zeller 2021). We collected tweets posted with #climatestrikeonline on 13 March 2020 - the first Friday when the online protest was held after Greta Thunberg popularised the hashtag via a tweet earlier during that week (Pomeroy 2020) as well as a year later - on Friday, 12 March 2021. Tweets were collected using Twitter's advanced search option and searching with #climatestrikeonline in English language tweets. This resulted in 100 tweets from 13 March 2020 of which 73 were excluded for further analysis; and 86 tweets from 12 March 2021 of which 67 were excluded. A tweet was excluded from further analysis if: it contained a video; was an organisational tweet; the individual who posted the tweet was under 18 years of age at the time or there was not enough information in their Twitter bio to determine their age; or the individual who posted the tweet was over 18, but the tweet contained a photograph or a video which featured individuals that were visibly under 18. These exclusion criteria resulted in a total of 46 tweets being analysed (27 from 13 March 2020; 19 from 12 March 2021).

### 3.2. Data analysis

We analysed the collected data drawing on the linguistic approach to social media sharing developed by Scott (2022). In this approach, users are seen as sharing content for a variety of reasons beyond information provision, and each act of sharing is studied to establish how it achieved relevance (Sperber and Wilson 1995) in a specific context. The concept of affordances is key to such consideration of context. In this study, we align with practice-based theories of affordances which define affordances as possibilities for action and emphasise that affordances are "not things which impose themselves upon humans" actions (…) But they do set limits on what it is possible to do" (Hutchby 2001, 453).

Focusing on the sharing of third-party content, Scott (2022) proposes to see the act of retweeting as an example of showing which can be thought of like directive pointing. Similarly, the use of an image such as a GIF or a photo (either third-party or created by the authors themselves) can be seen as an act of showing a representation to an addressee who will "need to infer that something relevant follows from the gestures, action, or expression" (Scot 2022: 103) depicted in the image. What can be inferred depends on the context in which the image is used – the viewer needs to identify a resemblance between the visual information and the experience that is being communicated. Social media posts that include images are frequently used for social bonding and community building and they can include memes (amusing or interesting items such as captioned pictures that are spread widely online) but are not limited to them.

Scott (2022) also distinguishes between descriptive and attributive uses of language. Quotations are forms of attributive use because rather than describing the world from the perspective of the speaker they are a representation of another's thought. While descriptive uses of language and images achieve relevance because they provide a description of the world as the speaker sees it, attributive uses achieve relevance by informing the hearer that so and so said something (Sperber and Wilson 1995). Within the category of attributive uses of language, Scott (2022) further distinguishes between informative attributive, echoic attributive, and phatic attributive use. A "text" can be considered as informative attributive if its primary function is to share information, to inform the audience of the content of the attributed thought (Wilson and Sperber 2012). It can be seen as echoic attributive if its primary function is to express an attitude, to convey a reaction to the attributed thought (Wilson and Sperber 2012). Finally, it can be considered as phatic attributive when its primary function is to manage social interactions, to indicate that the preceding utterance has been heard and understood (Wilson and Sperber 2012).

### 3.3. Ethics

Twitter is among the most open social media platforms (Williams et al. 2017) and its official Terms of Service are explicit that data is public (Evans et al. 2015). The analysed tweets also contain publicised hashtags, part of an advertised campaign to place the climate emergency in the public spotlight. But by researching FFF tweets we are dealing with a potentially sensitive topic and Twitter now acknowledges that the (mis)use of publicly shared content can disproportionally affects certain groups of people including activists (Twitter 2022a, 2022b). As Twitter's guidelines rule out the option of editing or anonymising tweets and sharing private media without the permission of the person who it belongs to (Twitter 2022a, 2022b), we sought consent (via an @ tweet or a DM) from the small number of Twitter users whose tweets we reproduce here. As part of our ethical strategy, we also decided not to analyse tweets posted

by individuals who were verifiably under 18, as this age group is traditionally considered to be more vulnerable and in need of protection. Approval for this study was obtained from the Queen Mary University of London ethics committee. We contacted the three authors of the tweets which we reproduce in this paper either by direct message on Twitter or by email to seek their consent to have their tweets reproduced. In the initial message (dated 17 December 2022), the three authors were asked to contact us if they objected to their tweets being reproduced in this paper and were given a month to contact us during which time, we sent one reminder. Two of the authors (@LeahBuehrmann and @rikkednielsen) did not contact us within the response timeframe, which we interpret as consent. One of the authors (@eve_chantel), contacted us to express consent.

## 4   Findings and discussion

In terms of retweeting, the analysed tweets were retweeted 62 times on average. The most retweeted tweet in our sample was retweeted 328 times, the least retweeted tweet had no shares at all. Next, we grouped tweets according to modal composition. Tweets without an image or a video were rare. In fact, only one of the 46 tweets in our sample featured no images or videos. We then categorised the 45 tweets with images according to the content depicted in the image. Tweets with images most frequently featured a person (43 tweets). Of those tweets, most were selfies.

These photographs featuring a person were mostly within a visible home setting reflecting Covid-19 restrictions (28 tweets), followed by selfies or photos taken in public spaces such as streets or parks (9 tweets), and selfies or photos taken outside but within a private property such as a backyard or immediately outside the house doors (5 tweets). Since the time of posting was during Covid-19 restrictions, it is plausible that photos taken in public spaces were examples of re-using previously taken photos, or during times when restrictions had been eased off and in observance of social distancing measures. The two tweets with images which did not feature a person were images that included slogans (e.g., "unite behind science") placed in a home environment (e.g., on the sofa, on the floor).

In the next step, we coded tweets as informative attributive, echoic attributive, or phatic attributive. Most tweets were echoic attributive. They were attributive because the content of the images referred either to Greta Thunberg's original slogan and/or to the pre-Covid-19 activity of "offline" protesting (by the author presumably) as shown by different objects in the images (see Figure 1) – photographs of paper with pen-written slogans, of the authors holding the slogans outside, of the authors holding the slogans indoors.  The language accompanying the images and particularly the use of collective pronouns such as "we" and "our" shows that such tweets are used as a way of showing "something in common" rather than as information signs despite the presence of informative messages in some of them. Whereas echoic forms can also be used to disassociate from a message, here the echo is used to communicate a positive reaction on behalf of the author with an invitation to "join in" the online protest for the climate.

Figure 1 An example of an echoic attributive tweet

Second most common were phatic attributive tweets. For tweets which do not provide an attitude linguistically but simply repeat the hashtag and include a selfie we suggest that the attributive use is phatic. The informational content of the tweet (see Figure 2) will not be relevant to the author's followers in its own right since it is a repetition. One's followers would already know that the author is on strike as it is visible from the text content of the tweet so the repetition in a visual form will not directly lead to cognitive effects for them. The author is not communicating a particular attitude or reaction towards the image either, and so this is not an echoic attributive use. Rather, the author is communicating that she is aware of, or in the words of Wilson an Sperber (2012) has heard and understood, Greta Thunberg's initial slogan – "school strike 4 climate" written out by hand on a cardboard – and is thinking about it. It may signal solidarity with Greta Thunberg and other activists posting pictures with this sign. The relevance of such uses lies in the effects they have on social relationships and social interactions (Scott 2022; Varis and Blommaert 2015), and as such, we can think of these as phatic attributive uses.



Figure 2 An example of a phatic attributive tweet

A few tweets provided meta-commentary on the activity and contained photos of presumably here and now (see Figure 3). This also relates to phatic attributive use as the comments reflecting on the activity of striking are designed to appeal to common goals and values and reaffirm the socially valuable identity of the climate change campaigner.



Figure 3 An example of a phatic attributive tweet

In terms of multimodal composition, the selfie-based tweets show high levels of similarity. There is repetition of poses and staging (holding a sign) and of facial expressions (e.g., serious expression and direct gaze rather than smiling) which may contribute to the construction of collectivity through a communal display. Twitter affordances play a major role in this process through the visibility and replicability of messages (boyd 2011; Georgalou 2021). As Varis and Blommaert (2015) point out in relation to memes, the visual architecture of the sign (in this case a selfie-based #climatestrikeonline tweet) "becomes the intertextual link enabling the infinite resemiotizations while retaining the original semiotic pointer" (2015, 37), as most authors of subsequent tweets would know that the variants derive from one "original" multimodal composition.

## 5   Conclusion

Research has tended to focus on evaluating the utility of social media for spreading climate change-related messages or on assessing the impact of social media messages on opinion formation about climate change. In contrast, we have argued that conceptualising tweets about climate change as a way to perform identities and express opinion can advance our understanding of social media practices of environmental campaigners beyond the instrumental focus on information provision. Our study examined the linguistic and visual choices made by those who publish tweets under the #climatestrikeonline hashtag in order to understand the

mechanisms of affiliation and community formation. Focusing on how different users of the hashtag construct themselves through shared linguistic practices as well as visual practices we showed one way of how communities might form around particular discourses. While many tweets in our sample can be categorised as information-focused according to content analysis-based approaches we have shown how such tweets can still express an attitude (echoic attributive) and/or serve the purpose of managing social relations (phatic attributive). We show how such functions become relevant, and identifiable, only if we pay attention to the context in which tweets are shared, including social media affordances.

Our analysis also demonstrates the important role of selfies in activist communication on Twitter. While selfies have been criticised as a form of self-centred, individualistic, and commercialised media engagement (e.g., Barnard 2016), they have also been recognised as a powerful tool in activism on different issues (e.g., Nikunen 2019). As Moser (2010) maintained, socially relevant identities matter in the collective effort to slow down climate change and tweets that include a selfie may provide a way of articulating a desirable identity of a climate change supporter to a wide network of contacts (e.g., not only other activists but also friends and colleagues). Combined with text, selfie-based tweets represent both a means of creating and managing identity and a means of connecting to others primarily for the sake of "being together". This is in line with Svenson's (2011) idea of expressive rationality according to which (political) citizens are motivated by a will to express, perform, create, and recreate identities rather than only by one's own self-interest. We argue that the concepts and techniques of digital pragmatics can help us understand the importance of expression (and responsiveness and connectedness engendered through it) as we have shown how #climatestrikeonline tweets served as the means of (re)creating and maintaining social bonds during the time of pandemic restrictions and beyond.

If we accept that the value of online activism lies not only in information provision but also in the reproduction of ties and affirmation of collective identity, then continuous identification enabled through echoic and phatic attributive tweets becomes particularly important. As such constructions, and the attitudes they reflect, become more prominent over time, they can become part of the larger social patterns that direct action. In this way, both digital networks and discursive constructions of identity and collectivity can be seen as galvanizing momentum in environmental activism.

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