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FOCUS ARTICLE

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Climate activism and its effects

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Abstract

As activism including climate strikes have become a common occurrence around the world, it is important to consider the growth in climate change-focused activism and participation in social movements as a specific type of civic engagement. Although studies have analyzed climate activism and the climate movement, there is limited research that integrates it into the broader literature on civic engagement and which considers how these forms of engagement are related to specific climate outcomes. Here, we take a first step in understanding the material outcomes of these efforts. Specifically, we provide an overview of climate-related activism as a form of civic engagement, paying particular attention to the targets of this activism and its environmental outcomes in terms of greenhouse gas emissions reductions. Then, we focus on one of the most common tactics to gain momentum in recent years: the school strike, which has mobilized a growing number of participants around the world. We discuss how the Coronavirus pandemic has changed the climate movement with much activism moving online. We conclude by discussing the overall state of the knowledge about the outcomes of climate activism, as well as highlighting the need for careful research to measure its effects across scale.

This article is categorized under

Policy and Governance > Private Governance of Climate Change

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KEYWORDS

activism, civic engagement, climate change, social movements

1 | INTRODUCTION

As coordinated school strikes have taken place around the world to draw attention to the climate crisis, they have mobilized an increasing number of participants in a growing number of locations. This type of activism involves particular forms of civic engagement that specifically aim to pressure governments to take action that addresses the issue of climate change. Civic engagement is the term used to describe the manifold ways that citizens participate in their societies with the intention of influencing communities, politics, and the economy. Forms of engagement range from tactics that involve citizens working directly to change their individual behaviors, along with those that involve indirect efforts to bring about change through the political and economic systems (like school strikes). Tactics run the gamut and range from those that work within these systems to those that work outside of them (Meyer & Tarrow, 1997). Collective efforts are mediated by various organizational forms (Anheier & Themudo, 2002), which can either create or remove

obstacles to participation (Fisher & Green, 2004; for more general discussion, see Gamson, 1975; McAdam, 1983). As has been noted by numerous studies, civic engagement is much higher in democratic countries where citizens are afforded rights to participate and to voice their opinions (DeBardeleben & Pammett, 2009; see also Putnam, Leonardi, & Nanetti, 1994; Schofer & Longhofer, 2011; Skocpol & Fiorina, 1999; de Tocqueville, 2002; see particularly Verba, Schlozman, & Brady, 1995). At the same time, digital technologies have been found to facilitate the spread of various forms of activism while they connect countries and cultures (Bennett, 2013; Theocharis, Vitoratou, & Sajuria, 2017).

This paper reviews the specific ways that citizens have engaged civically around the issue of climate change, paying particular attention to the documented effects of these efforts on climate change itself. Our discussion provides a review of the range of direct and indirect forms of climate activism (for a general overview of the direct and indirect effects of social movements, see Snow & Soule, 2010). After this review, we present the case of school strikes as a specific tactic that has gained attention in recent years. In this section, we review the limited research that presents data collected from participants of climate strikes in 2019 to understand trends in the expansion of this popular tactic. As the world responds to the COVID-19 outbreak and activism (including climate strikes) move increasingly online, we discuss the potential implications of the pandemic on climate activism and engagement. The conclusion of this paper emphasizes that future research must pay more attention to the relationship between climate-related civic engagement and measurable environmental outcomes. It highlights the methodological challenges facing scholars who take on the difficult analytical task of assessing the outcomes of climate activism in a way that is scalable for a global movement aiming to stop a global crisis.

2 | ACTIVISM WITH DIRECT EFFECTS ON CLIMATE CHANGE

There are limited forms of civic engagement that involve efforts to have a direct effect on individual greenhouse gas emissions. For example, some environmental movements and environmental groups encourage their members to make lifestyle changes that reduce their individual carbon footprints. These efforts focus on changing consumer behaviors, such as reducing car-use, flying, shifting to nonfossil fuel-based sources of electricity, and eating less dairy or meat (Büchs, Saunders, Wallbridge, Smith, & Bardsley, 2015; Cherry, 2006; Cronin, McCarthy, & Collins, 2014; Ergas, 2010; Haenfler, Johnson, & Jones, 2012; Middlemiss, 2011; Salt & Layzell, 1985; Saunders, Büchs, Papafragkou, Wallbridge, & Smith, 2014; Stuart, Thomas, Donaghue, & Russell, 2013; Wynes, Nicholas, Zhao, & Donner, 2018; for an overview on these measures, see Wynes & Nicholas, 2017). So far, there are only a limited number of case studies that measure the direct effect of participation in these types of movements as it relates to climate outcomes. In their study of the electricity use of 72 households in southern England, for example, Saunders and colleagues find an association between low levels of electricity use and contact with environmental organizations (Saunders et al., 2014). Similarly, in a longitudinal ethnographic study of a small number of participants in an environmental campaign in Sweden, Vestergren and colleagues conclude that participants in an environmental campaign sustained reductions in plastic use and meat consumption over the period of their study (Vestergren, Drury, & Chiriac, 2018, 2019). There is a clear need for research on the material outcomes of these movements that aim to have direct effects on consumption patterns that goes beyond single case studies. At the same time, measuring direct effects of these efforts in a way that scales up is extremely challenging, especially when crossing cultural and institutional contexts.

3 | ACTIVISM WITH INDIRECT EFFECTS ON CLIMATE CHANGE

Most types of activism, however, do not aim to have direct effects on greenhouse gas emissions. Instead, they work to pressure economic and political actors to change policies and behaviors in a way that will lead to reductions in emissions. In other words, their goals are indirect: these forms of engagement target nodes of power—policymakers, regulators, and businesses—to change their behaviors and/or accelerate their efforts to reduce greenhouse gas emissions. These forms of civic engagement involve providing the labor and political will needed to pressure political and economic actors to enact the kinds of emission-reducing policies recommended by scientists working with the Intergovernmental Panel on Climate Change (IPCC) (Intergovernmental Panel on Climate Change & Edenhofer, 2014, pt. IV).

Much of the research in this area looks at the role of internationally focused environmental Non-Governmental Organizations (NGOs), which tend to target international environmental negotiation processes (Betsill & Corell, 2008; Boli & Thomas, 1999; Fox & Brown, 1998). Within this research area, there are numerous studies that analyze

quantitative data sets to understand the relationship between NGOs and a country's environmental impact comparatively (see also Frank, Hironaka, & Schofer, 2000; Grant, Jorgenson, & Longhofer, 2018; Jorgenson, Dick, & Shandra, 2011; Longhofer & Jorgenson, 2017; Schofer & Hironaka, 2005). Other studies focus specifically on the relationship between NGOs and environmental impact within nations (Dietz, Frank, Whitley, Kelly, & Kelly, 2015; Grant & Vasi, 2017; Shwom, 2011). In their quantitative analysis of the effects of world society on environmental protection outcomes in countries around the world, Schofer and Hironaka find clear evidence that the rise of an "international environmental regime," which includes environmental NGOs, is associated with lower levels of environmental degradation, including reduced carbon dioxide emissions (Schofer & Hironaka, 2005).

More recently, scholars have worked to understand this relationship within the context of development. For example, Longhofer and Jorgenson conclude that nations with the highest levels of membership in international environmental NGOs experience a moderate "decoupling" in the assocaition between economic development and carbon emissions (Grant et al., 2018; see also Jorgenson et al., 2011; Longhofer & Jorgenson, 2017) Although these studies provide a good first step in understanding this connection, more research is needed about how exactly the existence of NGOs bring about lower emissions.

Beyond these studies that explicitly analyze the relationship between NGOs and carbon emissions, there is a small but growing literature that assesses the broader consequences of activism, which aims to pressure policymakers to take action across a range of issues (Amenta, Caren, Chiarello, & Su, 2010; Giugni, McAdam, & Tilly, 1999; Soule & Olzak, 2004). This research focuses specifically on the outcome of specific forms of engagement, or tactics (for an overview, see Caren, Ghoshal, & Ribas, 2011). Some of the most common tactics that activists are employing to reduce greenhouse gas emissions indirectly are summarized in the sections that follow.

3.1 | Activism through litigation

Litigation is one of the tactics that citizens, local governments, NGOs, and even corporations are using to pressure governments. This tactic aims to work through the judicial system to take action or enforce existing legislation (McCormick et al., 2017; Peel & Lin, 2019; Peel & Osofsky, 2015; Setzer & Vanhala, 2019; see also Pfrommer et al., 2019). In May 2017, UN Environment reported that climate change-related cases had been filed in 24 countries plus the European Union (UN Environment, 2017). In some cases, this tactic is being used to pressure businesses and governments to meet their policy commitments (Setzer & Vanhala, 2019; UN Environment, 2017). So far, however, there remains insufficient evidence regarding what effect these judicial efforts are having on greenhouse gas emissions.

3.2 | Activism targeting business actors

At the same time, some groups focus their attention on targeting the economic sector and specific businesses. These efforts employ shareholder activism and cooperative board stewardship, as well as protest (King & Soule, 2007; M.-D. P. Lee & Lounsbury, 2011; McDonnell, King, & Soule, 2015; Szulecki, 2018; Yildiz et al., 2015). Shareholder activism focuses on investors' response to corporate activities and performances (Gillan & Starks, 2007). It involves investors who are dissatisfied with the company's management or operation taking advantage of their role as shareholders to pressure the company to change (Bratton & Mccahery, 2015; Gillan & Starks, 2007). Cooperative board stewardship, in contrast, involves "jointly owned and democratically controlled businesses" that support renewable energy (Viardot, 2013, p. 757; see also Yildiz et al., 2015).

Some of this business-focused activism involves working through transnational advocacy networks, which have been documented to target governments and corporations (Hadden & Jasny, 2017; Keck & Sikkink, 2014; McAteer & Pulver, 2009). In their comparative study of shareholder activism in the Amazon region, McAteer and Pulver come to mixed conclusions, finding that one of the shareholder advocacy networks in Ecuador was successful in limiting oil development, while the other was not (McAteer & Pulver, 2009).

Other types of activism that target business practices involve environmental groups working as part of a campaign to pressure institutional investors and universities to divest from fossil fuels. Groups employ "a range of strategies to shame, pressure, facilitate, and encourage investors in general, and large institutional investors in particular, to relinquish their holdings of fossil fuel stocks in favour of climate-friendly alternatives" (Ayling & Gunningham, 2017, p. 131; Franta, 2017; Grady-Benson & Sarathy, 2016; Hestres & Hopke, 2019). Although research has yet to conclude

that these efforts have a substantial effect on fossil fuel funding or greenhouse gas emissions (Tollefson, 2015; but see Bergman, 2018), a recent study of fossil fuel divestment and green bonds provides some evidence of success. In it, Glomsrød and Wei model green investment scenarios that include funding allocation constraints due to divestment around the world. The authors find that these efforts yield notable emissions reductions (Glomsrød & Wei, 2018, p. 7).

3.3 | Activism working within the political system

Activism also frequently involves citizens working individually or in groups to take advantage of opportunities to pressure governmental actors from within the political system. These tactics involve lobbying elected officials or working to change political representation through democratic elections of candidates (for an overview, see Clemens, 1997; Schlozman, Verba, & Brady, 2012).

Turning first to lobbying, there is some evidence that these efforts by civic groups have a positive effect on environmental outcomes. In their 2016 study, Olzak and colleagues find that the number of environmental lobbyist organizations has a positive effect on the enactment of environmental legislation (Olzak, Soule, Coddou, & Muñoz, 2016). Although the authors do not specifically document the effects of the legislation on material outcomes, more recent research has found climate laws to reduce carbon emissions (Eskander & Fankhauser, 2020).

Even though groups representing both the general public and businesses engage in lobbying, research has found business groups have (and spend) more financial and human resources, which affords them "privileged access" to policymakers and policymaking (Freudenburg, 2005). In his study of the "climate lobby," Brulle compares the amounts spent by different groups for lobbying around the climate issue in the U.S. Congress. He finds that the "major sectors involved in lobbying were fossil fuel and transportation corporations, utilities, and affiliated trade associations. Expenditures by these sectors dwarf those of environmental organizations and renewable energy corporations" (Brulle, 2018, p. 289; see also Farrell, 2016). In some cases, representatives from business interests that have been lobbying against environmental policies are given opportunities to join the government. This process leads to "Regulatory Capture" by the specific business interest and is found to be associated with substantial negative public and environmental health consequences (for a recent example, see Dillon et al., 2018).

Activism within the political system also involves citizens working through the electoral process to affect all sorts of social change (for a discussion of engagement in electoral politics as activism, see Fisher, 2012, 2019a). In some cases, elections focus on the differences between candidates who are supportive of policies that include more aggressive climate change mitigation strategies. Although research has yet to analyze extensively the relationship between this type of election-related civic engagement and climate outcomes, there is already some evidence. For example, a 2019 study finds that individuals in the United States who installed solar panels participate more in elections (Mildenberger, Howe, & Miljanich, 2019). At the same time, other research has documented various forms of electoral backlash against climate policies, both individually (Stokes, 2016, 2020), as well as in combination with other progressive agenda items (Muradian & Pascual, 2020).

In their study of the success of "far-right movements" around the world and the concurrent election of "far-right" candidates, Muradian and Pascual note that far-right-leaning elected officials tend to have low concern for environmental issues and to deny climate change and disregard scientific evidence (Muradian & Pascual, 2020). Although they do not specifically look at the environmental outcomes of these officials holding office, given their common values and the empirical evidence coming out of the early years of the Trump Administration (Bomberg, 2017; Fisher & Jorgenson, 2019), it is likely that these officials will contribute to the passage of policies that limit the effectiveness of climate-related plans, reduce enforcement of these plans, or block them outright.

3.4 | Activism outside the economic and political system

At the same time, there is expansive research on the ways citizens with less access to resources and power participate by challenging the economic and political system from outside it (for an overview, see Meyer & Tarrow, 1997). These efforts include a range of more confrontational tactics, such as boycotting, striking, protesting, and direct action that target politics, policymakers, and businesses. Many studies have explained this type of activism using climate change as a case (Fisher, 2010; Hadden, 2015; Saunders, Grasso, Olcese, Rainsford, & Rootes, 2012; Swim, Geiger, & Lengieza, 2019; Wahlström, Wennerhag, & Rootes, 2013; see also Fisher, Stanley, Berman, & Neff, 2005; Walgrave,

Wouters, Van Laer, Verhulst, & Ketelaars, 2012). So far, however, only a handful of studies have explored the effect of these tactics on climate-related outcomes (but see Muñoz, Olzak, & Soule, 2018; Olzak et al., 2016).

In their research on the success of environmental legislation in the U.S. Congress, Olzak and colleagues find that some civic tactics have a more positive effect than others: while they conclude that the number of environmental lobbyist organizations is positively associated with the enactment of environmental legislation, which can lead to carbon emissions reductions, they also find that protest by constituents has no effect (Olzak et al., 2016; see also Olzak & Soule, 2009). In a 2018 piece, which uses more recent data to analyze the relationship between protest, policy, and greenhouse gas emissions across states in the United States, the authors come to different conclusions. They find that emissions in states decline when there is more pro-environmental protest (Muñoz et al., 2018).

A good deal of research has concluded that activism, including tactics such as protests or strikes played a large role in pressuring governments to create environmental laws and environmental agencies tasked with enforcing those laws around the world (Brulle, 2000; see also Longhofer, Schofer, Miric, & Frank, 2016; McCloskey, 1991; Rucht, 1999; Schreurs, 1997; Steinhardt & Wu, 2016; Wong, 2018). Moreover, research has documented how coalitions of activists achieved a degree of success when they protested environmentally damaging projects, including the Narmada Dam development in India (Khagram, 2004), and environmentally harmful nuclear power plants, dams, and airports in Japan (Aldrich, 2010). In her study of the campaign against coal mining and burning in South Africa, Cock finds that the campaign challenged inequality and generated solidarity (Cock, 2019).

4 | CLIMATE STRIKES AS A GROWING TACTIC

Climate strikes are a particular outsider tactic that aims to pressure both the political and economic system. On August 20, 2018, Greta Thunberg decided not to attend school and sit on the steps of the Swedish parliament to demand that the government take steps to address climate change (Gessen, 2018). Inspired by the national school walkout against gun violence in the United States that was organized after the Parkland School Shooting in Florida, the 15-year-old has spent her Fridays sitting with a hand-written sign protesting ever since. Fridays for Future—the name of the group coordinating this tactic of skipping school on Fridays to protest inaction on climate change—flourished due to its usage of digital technologies to engage young people and the tactic has spread.

In March 2019, the first global climate strike took place, turning out more than 1 million people around the world. Six months later in September 2019, young people and adults responded to a call by young activists to participate in climate strikes as part of the "Global Week for Future" surrounding the UN Climate Action Summit.[1] The number of participants in this event globally jumped to an estimated 7.6 million people (Rosane, 2019). Figure 1 presents the growth

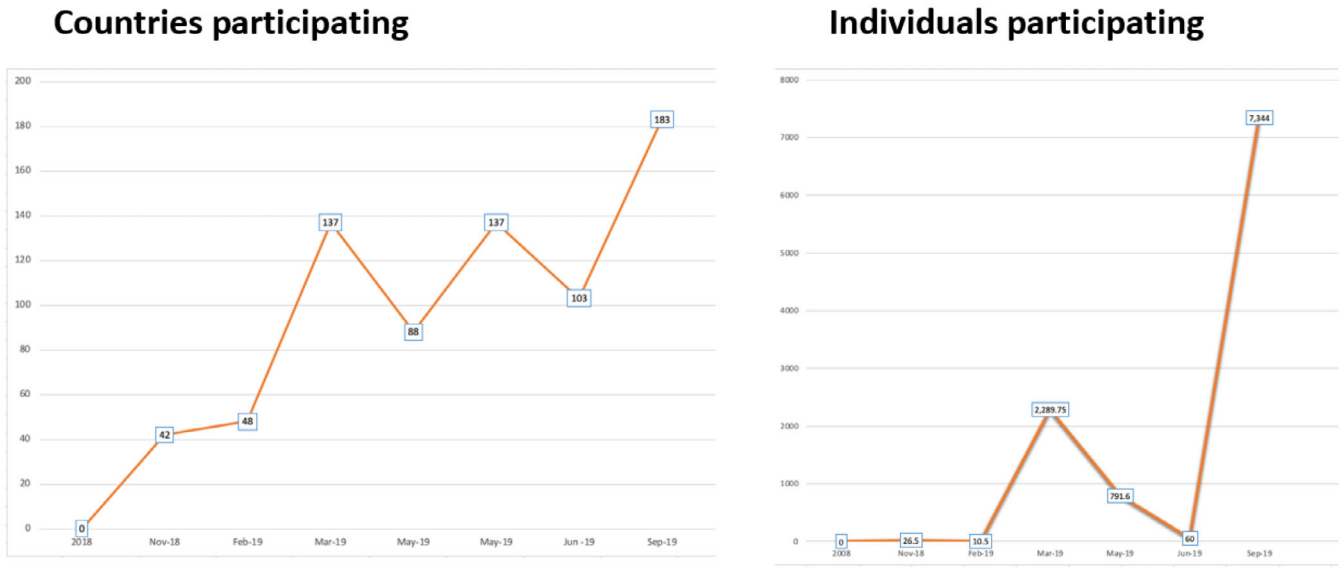

FIGURE 1 International growth in climate strikes by countries participating and individual participants. *Source:* Fridays for Future, https://fridaysforfuture.org/statistics/list-countries

in the tactic of climate strikes in terms of the numbers of nations where strikes have taken place and the total number of participants involved.

Even before this movement had mobilized millions to strike, a narrative synthesis of studies that focused on youth perceptions of climate change from 1993 to 2018 documented how youth voices on climate change had become much more prominent and more widely publicized (K. Lee, Gjersoe, O'Neill, & Barnett, 2020). Specific research on this movement and its consequences has yet to be published in peer-reviewed publications (but see Evensen, 2019; Fisher, 2019b; Wahlström et al., 2013). However, in a series of pieces published in the *Washington Post*, Fisher presents analyses of data collected from participants in climate strikes during 2019 to understand how this tactic and the movement have grown in the United States (Fisher, 2019c, 2019d).

As an outsider tactic by school-aged children that aims to pressure governments to implement more radical climate policies that will lead to emissions reductions, school strikes are a popular example of activism with the goal of having an indirect effect on climate change. Measuring the outcomes of these efforts, in terms of political outcomes and emissions reductions is extremely challenging given the indirect nature of this activism. Such calculations are made even more challenging given the scale and scope of the activism, which has mobilized millions of people to act locally to pressure governments at the local, national, and international levels. Although the overall numbers are large, most of these strikes involve relatively small proportions of overall populations.

In early 2020, organizers of this movement were planning for even larger strikes and demonstrations that would take place throughout the year. However, with the global spread of the Coronavirus and the enforcement of social distancing, climate activists called off their in-person protests and worked to move their activism online.[2] In April 2020, the world participated in digital strikes to commemorate the 50th anniversary of Earth Day. In the United States, the organizational coalition for the climate strike hosted a 3-day digital event called Earth Day Live.[3] As part of the event, organizers encouraged activists to participate in numerous activities including virtual protests, tweet storms, hashtag activism that targeted specific corporations, and posting selfies with signs.

The aim of the digital strike was to keep the momentum of the movement going while in-person activism was seen as too dangerous due to the pandemic. Although digital activism makes it easier to connect with people in different locations, it is unclear how these changes will affect the youth climate movement. Research has found that online activism is likely to involve a more limited range of participants and perspectives (for an overview, see Bennett, 2013; Elliott & Earl, 2018). Moreover, digital tactics are also seen as creating less thick infrastructure that has been found to lead to longer term engagement (for a discussion, see Rohlinger & Bunnage, 2018; Tufekci, 2017; but see Shirky, 2010).

5 | CONCLUSION

Overall, climate activism is diverse, mobilizing people to participate in direct efforts to make individual behavior changes, as well as in indirect actions that aim to pressure economic and political actors. So far, research that specifically connects this climate-focused civic engagement to environmental outcomes is woefully limited. The small number of studies that actually determine the effects of climate activism are most robust when they assess efforts that aim to have direct effects on emissions. Although case studies are a good first step, future research must scale-up these studies to evaluate more systematically the relationship between efforts by individuals to reduce their carbon footprints and the actual outcomes of these efforts in terms of emissions reductions.

Research that aims to analyze the effects of indirect activism that involves pressuring government or business actors to reduce emissions faces even more methodological challenges as the data on the activism, as well as on the connections between the activism and its effects on greenhouse gas emissions are both limited. So far, most of the current research in this area employs indirect associations between measures of aggregate emissions and relatively weak estimations of engagement in activism. The most common measures of engagement are organizational membership numbers (Grant et al., 2018; see also Longhofer et al., 2016) or media reports of climate-related protests (Muñoz et al., 2018; Olzak et al., 2016; Olzak & Soule, 2009); neither of which involve data collected directly from the participants of the activism about their specific efforts.

To assess the effects of this type of activism more systematically, measures of individual engagement in climate activism are needed. Data can be collected at the organizational or individual level to determine how members of groups or individuals are actually participating in the manifold tactics employed by climate activists. Such measures

would provide a much more effective gauge of activism and civic engagement overall. Of equal importance is the need to determine the specific relationship between particular tactics—such as boycotting, lobbying, or protesting—and actual environmental outcomes in terms of CO_2 and other greenhouse gas emissions reductions. Although challenging, given the recent advances in measuring all sorts of activities for integrated climate models, they are not insurmountable.

In other words, future research must analyze the lifecycle of climate activism and climate-related civic engagement, from protest in the streets to political maneuvers within the statehouse to understand its effects on greenhouse gas emissions. Only such research will facilitate knowledge about the relationship between specific tactics and environmental outcomes. Although there are numerous methodological challenges to measuring the effects of activism that is working to span political cultures, democratic traditions, and institutional settings, given the efforts to coordinate climate activism across political borders, it is imperative that research endeavors to overcome these challenges. Moreover, as the climate regime continues to play a role in coordinating climate action that is implemented at multiple levels, calculating the material outcomes of activism that targets multiple scales of governance is increasingly important.

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Dana R Fisher: Conceptualization; data curation; formal analysis; funding acquisition; investigation; methodology; project administration; resources; software; supervision; validation; visualization; writing-original draft; writing-review and editing. **Sohana Nasrin:** Data curation; formal analysis; investigation; visualization; writing-original draft; writing-review and editing.

CONFLICT OF INTEREST

The authors have no potential conflicts of interest that might be perceived as influencing their objectivity in writing this piece.

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ENDNOTES

[1] https://www.theguardian.com/commentisfree/2019/may/23/greta-thunberg-young-people-climate-strikes-20-september (Accessed April 9, 2020).

[2] See https://strikewithus.org/; see also: https://twitter.com/GretaThunberg/status/1238377012235927554 (Accessed April 8, 2020).

[3] https://www.earthdaylive2020.org/ (Accessed April 10, 2020).

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