Environmental communication, pro-environmental behavior, and ENGOs: Understanding motivation and strategy across nations

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by

Beatriz Sprada Mira

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Thesis written by

Beatriz Sprada Mira

B.A., Pontifical Catholic University of Paraná, 2019

M.A., Kent State University, 2021

Approved by

_____

Cheryl Ann Lambert, Ph.D., Advisor, School of Media and Journalism

_____

Emily Metzgar, Ph.D., Director, School of Media and Journalism

_____

Amy Reynolds, Ph.D., Dean, College of Communication and Information

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Acknowledgments

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Chapter I

Statement of the Problem

The 2019 climate strike led by 16-year old Greta Thunberg united six million people across generations, borders, and cultures, in the largest ever environmental protest to date (Taylor, Watts & Barlett, 2019). While this may indicate an agreement amongst the global community, that acknowledges the seriousness and validates the urgency of the climate crisis, the issue has famously become a matter of partisan opinion in the United States—an effect that is now also being observed in Brazil (Poushter & Huang, 2019). Despite the 97 percent of consensus among climate experts (Cook, van der Linden, Maibach, & Lewandowsky, 2018; Nisbet, 2009), the administration of far-right President Jair Bolsonaro of Brazil has been taking significant steps in dismantling the country's environmental policy tradition, causing irreversible damage to one of the most biodiverse and essential ecosystems in the world (Archer & Ray, 2019; Casado & Londoño, 2019). Conservative Americans, especially, appear to be unaware of the consensus, with only 20 percent of Republicans and 68 percent of Democrats believing it is a serious threat (Poushter & Huang, 2019). In the United States, President Trump backed out of the Paris Agreement, replaced the Clean Power Plan with the less-strict Affordable Clean Energy Rule, and has eased several regulations in air, water, and land protection, in favor of the use of fossil fuels (Colman, 2020; Gross, 2020). While this might not be reflective of the millions of people marching for the environment around the world, they are reflective of a highly polarized country that plays a major role in the global environmental well-being.

Even though the two countries are similar in size, Brazil is responsible for 2.25 percent of global CO2 emissions, as opposed to the United States' whopping 14.74 percent, that makes the U.S. the highest greenhouse gas emitter in the world (Barnosky et al., 2016; Dayrell & Urry,

2015; Ge & Friedrich, 2020; Painter, 2011). Amidst historic environmental disasters in both countries, the two Presidents' disdain for science and the media has been so well documented it is now common knowledge. An anti-science wave has been observed in many parts of the world (Kakutani, 2018). The strengthening of the reach and depth of science communication—environmental communication specifically—has never been more urgent. This study is an exploration into the personal motivations and communication strategies of individuals who dedicate their lives to convincing others of the seriousness of human impact on the planet, and how they might have changed after Bolsonaro's and Trump's ascent to office.

Environmental non-governmental organizations (ENGOs) bridge the gap between the academic and public spheres (Breitmeier & Ritterberger, 2000), and, therefore, are crucial in educating, motivating, and engaging the community in environmentalist causes. If information is consumed without context, it will not increase individual pro-environmental behavior (Hoewe & Ahern, 2017). Environmental communication professionals face the challenge of communicating science in an appealing, accessible way that resonates with publics as varied as decision-makers on the verge of making an important choice and a five-year old child who is curious about nature (Tandoc & Takahashi, 2013). Another obstacle in the field is that science is inherently uncertain (Kuhn, 1970). It is everchanging, transformative, always evolving; which can be hard to communicate to an audience that expects from it exclusively absolute truths (Gustafson & Rice, 2020). Environmental communication must be extensive and continuous to highlight its importance and urgency to the public (Uusi-Rauva & Heikkurinen, 2013), even if the science fails to predict exactly how and when their lives will be affected by, for example, climate change.

Every part of the planet will eventually face the consequences of the climate crisis. An issue as global as the state of our natural environment necessitates inclusivity because the areas

that are suffering the most are primarily poorer, underdeveloped regions from the Global South (Law, 2019). Based on these assumptions, this study is an ethnographic comparison between ENGOs of the United States and Brazil; nations similar in size, population, and current political climate, yet very different in historical, cultural, and socioeconomic aspects.

Study Context

Past studies have shown Brazilians to be historically concerned with and aware of environmental issues, especially when compared to Americans (Dayrell & Urry, 2015; Newport, 2019; Poushter & Huang, 2019). However, the country underwent a radical change in government and political ideology in 2018, with the election of Bolsonaro as President, who has previously been referred to as *Tropical Trump* (Weizemann, 2019). The U.S. President Donald Trump and President Bolsonaro have much in common, and Bolsonaro's election seems to have had a similar effect on the country as what Americans experienced with Trump's ascent to office in 2017 (Archer & Ray, 2019; Casado & Londoño, 2019).

Brazil ranked seventy-ninth place in the 2019 Human Development Index, which characterizes it as an emerging country. Despite the basic infrastructural and economic challenges of the Brazilian people, a Pew survey suggested that the population sees climate change as the most serious threat the nation faces (Poushter & Huang, 2019), and 90 percent of respondents believe climate change is affecting people around the world (Wike, 2016). To put this into context, only 41 percent of Americans believe people are currently facing the consequences of climate change (Poushter & Huang, 2019; Wike, 2016).

The United States ranked fifteenth overall, but only 41 percent of Americans believe people are currently facing the consequences of climate change (Poushter & Huang, 2019; Wike, 2016). Among the 26 countries that participated in the Pew survey, Brazil is the seventh most

concerned nation about the climate, while the United States comes in twenty-first place. This reflects Brazil's higher levels of concern and awareness toward the environment, compared to the United States. In the past two years, however, Brazil's overall positive reputation in environmentalism has been tarnished by the Bolsonaro administration, and Brazilians have hit record-breaking levels of dissatisfaction with environmental policy. Only 30 percent reported themselves to be satisfied with the President's actions in 2018, even before the Amazon and Pantanal fires (Archer & Ray, 2019). Bolsonaro ended several restrictions that protected over 1,330 miles of forest, which led to an increase of 80 percent in forest loss compared to the year prior (Casado & Londoño, 2019). Other examples of his anti-environment actions include the abolishment of the Brazilian Institute for the Environment, moving the Brazilian Forest Service from the Environment Ministry to the Agriculture Ministry, and appointing Ricardo Salles, a man convicted of an environmental crime, as the Minister of the Environment (Silva, 2020).

Justification for Study

In a time of a global pandemic and climate crisis, where fact has become a matter of opinion, and science a matter of politics, efficient and open communication has never been more urgent. Trust in government as well as traditional media sources—newspaper and television—is at an all-time low (Brewer & Ley, 2013). The twentieth Annual Edelman Trust Barometer (2020) shows that while 80 percent of participants trust scientists, only 50 percent trust journalists. However, NGOs—especially ENGOs—were considered the only ethical and competent institution among government, media, and business. In a system in which the source is trusted, but the traditional messenger is not, ENGOs might be one of the few communicators able to connect with the public in an effective manner.

Effective messaging comes from efficient strategies. Content creators must not only have clear objectives, but also strategic methods targeted to reach their stakeholder audience (Jarreau, Altinay, & Reynolds, 2017). The way these environmental issues are framed is of the utmost importance, and Barnosky, et. al (2016) identified the following communication techniques which have been linked to pro-environmental behavior: "Establish common ground; keep the message simple; be inclusive; tell a story; and de-politicize climate messages" (p. 9). Lee (2016) also emphasizes the importance of "touch", and the correct, strategic framing of environmental issues to the public.

When seeking behavioral change, ENGOs also face the four social-psychological denial mechanisms characterized by Stoll-Kleemann, O'Riordan, and Jaeger (2001): Unwillingness to change lifestyles; the belief that their individual action is insignificant; trust that the scientific community will find technological solutions for environmental issues, and distrust in the government. These denial mechanisms have led Lorenzoni and Whitmarsh (2007) to identify nine perceived "individual barriers to engagement" (p. 451): Lack of knowledge about the causes; consequences and potential solutions; uncertainty and skepticism about the causes and seriousness of climate change; distrust in information sources; externalizing responsibility and blame; perceiving climate change as a distant threat; the notion that other issues are more important; reluctance to change lifestyles, and fatalism and individual helplessness.

Chapter II

Theory of Planned Behavior

The main goal is to understand the individual motivation behind ENGO members, and how these members work to motivate others. The theory of planned behavior (TPB) provides the appropriate theoretical framework needed to predict and analyze behavior and action. Azjen

(1991) created the TPB to explain an individual's *intention* to perform a particular behavior: "Intentions are assumed to capture the motivational factors that influence a behavior; they are indicators of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behavior" (p. 181). In other words, TPB is about the moment one decides to perform a behavior, and what brings them to that decision.

In TPB, three factors precede intention: Attitude toward the behavior, subjective norm, and perceived behavioral control (Ajzen, 1991). These determinants are, respectively, based on behavioral belief, normative belief, and control belief (Si et al., 2019). *Attitude toward the behavior* refers to the individual's personal evaluation of the given behavior, whether it is good or bad, for example (Ajzen, 1991). *Subjective norm* relates to the individual's perception of how others are supportive (or not), of behavioral change. In other words, it refers to social pressure, and it can also be divided into descriptive and injunctive norms (Ajzen, 1991; Ho, Liao & Rosenthal, 2015). Finally, *perceived behavioral control* is attached to self-efficacy notions—if the individual believes they are capable of carrying out said particular behavioral change (Ajzen, 1991). TPB has been linked in research to health and environmental behaviors (Wirtz & Rohrbeck, 2017; Spartz, et. al., 2017), and it can be of great help to theorists and practitioners alike to understand the intricacies behind personal motivation and influence upon the community regarding environmental concerns (Si et al., 2019).

Chapter III

Understanding Environmental Communication

Environmental communication as an area of study has grown considerably over the past few decades (Cox & Pezzullo, 2018). The ever-expanding body of knowledge encompasses not only environmental and science reporting and professional values and practices, but also

campaign and communication strategies of ENGOs (Hansen, 2015). Cox and Pezzullo (2018) assert that environmental communication is pragmatic and constitutive: It is pragmatic when it seeks to fulfill its instrumental intention, when it "greets, informs, demands, promises, requests, educates, alerts, persuades, rejects and more" (p. 13). On the other hand, it is constitutive when its verbal and nonverbal forms of interaction "shape, orient, and negotiate meaning, values, and relationships" (p. 13). One can also define environmental communication through the people's perspective; how they communicate with each other about the environment (Jarreau, Altinay, & Reynolds, 2017). To Brulle (2010), the direct involvement of the civil community in the policy development process is what should be environmental communication's main goal. Ultimately, this study considers environmental communication as all messaging that fulfills its role to alert society about the issue, to amplify the issue's reach, and to engage the people in action (Cox & Pezzullo, 2018).

Environmental communication in practice

Scholars have attempted to create specific models of environmental messaging guided by an evidence-based approach (Bator & Cialdini, 2000; Hoewe & Ahern, 2017; Hu & Pratt, 2017; Liang, Kee & Henderson, 2018; Lie, 2018; Schwartz & Loewenstein, 2017). The results, however, often do not reach the content creators who would benefit from it the most (Besley, 2015). In order to achieve a more substantial impact on both the theoretical and practical sides of environmental communication, academics are advised to think of it as part of a larger, transdisciplinary group (Besley, 2015; Lindenfeld, et al., 2012; Si et al., 2019), as well as to strongly attach theory to practice (Harris, 2017).

Researchers are also able to conduct in-depth studies on the emotional impact and influence environmental communication can have on the individual (Lockwood, 2016), by

combining the knowledge of different fields, especially communication and psychology (Jarreau, Altinay, & Reynolds, 2017). However, a consensus is still to be reached. Research suggests that content created with the intention of evoking emotion is more successful than solely informational content in inciting pro-environmental behavior and action (Hoewe & Ahern, 2017). Furthermore, the scholars found that the most effective messages were not only emotional, but socially desirable. Positive, hopeful, optimistic content was more powerful than threatening, fear-instilling content. In contrast, sadness was the emotion that most provoked substantial change in behavior in another study (Schwartz & Loewenstein, 2017).

Liang, Kee, and Henderson (2018) found that the communicator must not pose a threat to the individual's personal freedom, or include a demanding, controlling, and moralizing undertone. These findings are consistent with results of previous experiments that compared participants' reactions to tailored messages on both ends of the spectrum: The "socially desirable" and "positive" content was linked to pro-environmental behavior reported by study participants, while the mainly factual content was not (Hoewe & Ahern, 2017).

Scholars have also stressed the importance of further exploring visual environmental communication. Imagery in communication campaigns serves purposes such as attention drawing; emotional stimulation; enhancing of memorability; and representation of abstract concepts, which are all strongly connected to environmental messages. It is a more participatory form of connection between the communicator and the audience, and has been preferred by participants in previous studies, in contrast to verbal communication forms (Harris, 2017; Hespanha & Rice, 2016; Thakadu, Irani, & Telg, 2011). This is one of the many valuable strategies suggested by scholarship in environmental communication, which has been proven to

be effective. It is, therefore, an important factor to consider when conducting an evaluation such as the present study.

Environmental communication and ENGOs

ENGOs can be divided into three types: Advocacy, service, and transnational criminal (Breitmeier & Ritterberger, 2000); the first two best describe organizations related to the environment. Advocacy refers to organizations focused on political agenda-setting, aiming to contribute to the implementation of public policy. Their goals are to "educate the public, mobilize and organize citizens to show their concern about the issue(s) in question, and create pressure, and lobby for their goals with decisionmakers" (p. 14). In contrast, service organizations "provide services to other organizations or groups and to contribute to implementing public policies" (p. 15).

The first organized movements for preservation emerged in the mid-nineteenth century, but it was only in the 1970s that these communities realized the issues they were demanding attention to would not be resolved if they continued to act on a local scale (Berny & Rootes, 2018; Cable & Benson, 1993; Raustiala, 1997). As the ENGOs grew in terms of public support, number of employees, financial power, and even property ownership, in some cases, the 1990s marked the institutionalization of these organizations (Berny & Rootes, 2018). Today, ENGOs symbolically stand at a crossroads, forced to make a choice: Stay on a path that leads to increasing institutionalization, hoping to influence environmental policy from within, or become increasingly radical, challenging mainstream politicians to act with more urgency (Berny & Rootes, 2018).

ENGOs provide the public with information produced by research institutes or even governmental agencies in an accessible way—acting as translators of academic knowledge

(Breitmeier & Ritterberger, 2000). McCarthy and Zald (1977) describe social movement organizations as "complex, or formal, organization which identifies its goals with the preferences of a social movement or a countermovement and attempts to implement those goals" (p. 1218). Environmental movements and ENGOs are the expression of the people's concern about their natural habitat, and the means to act upon it (Berny & Rootes, 2018; Harris, 2017). Members of ENGOs are therefore considered main disseminators of scientific knowledge and must receive the best possible training to do so effectively and responsibly.

The study is guided by the following research questions:

RQ1: What strategies do ENGOs use to communicate with the general public?

RQ2: How do ENGOs evaluate message effectiveness?

RQ3: Were the participants' work influenced by the current political climates?

RQ4: How has the Brazil-based ENGO's communication strategy changed after the election of President Bolsonaro?

RQ5: How has the United States-based ENGO's communication strategy changed after the election of President Trump?

Chapter IV

Methods

This is a study within the interpretive paradigmatic framework, regarding behavior and intention, that seeks to make sense and attribute meaning to the actions and motivations of a culture sharing group. Therefore, a qualitative, ethnographic-inspired approach was ideal to provide an in-depth perspective on why individuals get involved with ENGOs, and how they use communication to advocate for their cause in recruiting new members (Tracy, 2019).

Ethnography

An ethnography is both the method and the final product (Fetterman, 2010), and can focus on "a wide range of cultural aspects, including language use, rituals, ceremonies, relationships, and artifacts" (Tracy, 2019, p. 63). In other words, an ethnography searches for patterns from an emic perspective, using theory as guidance, to attribute meaning around the shared culture of a given community. This form of social research explores its nature (Atkinson & Hammersley, 1994). An ethnographer "is both storyteller and scientist" (Fetterman, 2010, p. 2), interested in "shared patterns of behavior, beliefs, and language" (Creswell & Poth, 2018, p. 90).

Data Collection Sites

Upon advice from key informants, specific organizations were recommended and contacted based on similar criteria. In Brazil, three ENGOs were contacted and *Sociedade de Pesquisa em Vida Selvagem* (SPVS) agreed to participate immediately. In the United States, 11 organizations were contacted, of which one, *Green Energy Ohio*, agreed to participate.

SPVS is located in Curitiba, capital of the state of Paraná in southern Brazil, which is home to the Atlantic Forest. In its totality, the Atlantic Forest covers about 13 percent of Brazil—almost the entire coastal area from North to South (Coordenadoria de Educação Ambiental Paraná, 2018). While Paraná is the state with the largest remaining stretch of this biome (Paraná Government, 2020)—98 percent of it is Atlantic Forest (Coordenadoria de Educação Ambiental Paraná, 2018)—it was also second place in deforestation rankings. The Atlantic Forest Stands Operation found that in the past year, deforestation rates increased by 155 percent, across an area 98 percent wider compared to 2019 (G1, 2020).

SPVS was founded in 1984 by a group of museum workers who mobilized for the conservation of the Forest. According to the website, its mission is to work for conservation through the protection of native biomes, educational initiatives, and research in the development of models for a more rational use of natural resources. Currently, SPVS works with private and public institutions, through projects that combine innovation, creativity, and scientific knowledge.

Founded in 2000, Green Energy Ohio's mission is to serve Ohioans statewide, in promoting clean energy through education and outreach initiatives, advocacy, and the creation and supporting of clean energy public policy. According to the website, its objectives are to promote sustainable energy policies, technologies, and practices in Ohio; to educate Ohioans on the availability, use, and benefits of renewable energy and conservation; and to represent a diverse membership—having individual members, businesses, government, academia, and other non-profits as partners.

Study Population and Data Collection

Study participants were recruited using purposive sampling techniques, which selects individuals that match the participation criteria by asking the gatekeeper to indicate who among the organization would qualify for the study (Tracy, 2019). The criteria for study participation were that the individuals are active members of the organization, meaning they work or volunteer consistently. A total of 17 participants were interviewed from both organizations: 10 Brazilian (table 1) and 7 American (table 2). All participants are college-educated, most of them STEM majors such as environmental and forest engineering, and biology, except for a few whose background is in the social sciences—sociology and communication—accompanied by an environmental-related minor.

Table 1

Sociedade de Pesquisa em Vida Selvagem (SPVS) Study Participants

Participant	Age	Job at ENGO	Time at ENGO	Education
BR-1	59	Founder/Director	36 years	Specialization
BR-2	44	Coordinator	8 years	PhD (Current)
BR-3	35	Employee	12 years	PhD (Current)
BR-4	61	Coordinator	34 years	M.S.
BR-5	30	Employee	3 years	Specialization
BR-6	29	Employee	5 years	B.S.
BR-7	44	Coordinator	21 years	M.S. (Current)
BR-8	40	Employee	9 years	M.S.
BR-9	36	Employee	1.5 years	PhD
BR-10	31	Employee	8 years	B.S.

Table 2

Green Energy Ohio (GEO) Study Participants

Participant	Age	Job at ENGO	Time at ENGO	Education
US-1	66	Board Member	3 years	B.S.
US-2	24	Employee	2 years	B.S.
US-3	72	Director	4 years	M.S.
US-4	27	Employee	2 years	M.S.
US-5	21	Intern	8 months	B.S. (Current)
US-6	61	Board President	14 years	B.S.
US-7	38	Board VP	10 years	M.S.

Through in-depth interviews, the researcher is able to reconstruct events they have not lived through, by exploring the "experiences, motives, and opinions of others, and learn to see the world from perspectives other than their own" (Rubin & Rubin, 2012, p. 3). The interviews for this study were semi-structured, meaning an interview protocol was developed with primarily open-ended questions, but flexible to alterations and more possible questions that can arise from the conversation with the participants (Tracy, 2019).

The interview protocols were tailored to address the proposed research questions. Questions such as "what made you get involved with environmentalism?" and "what does being

a part of SPVS mean to you?" address the personal motivational side of the phenomenon, whereas "what are you doing to recruit new members?" and "how would you describe SPVS's impact?" focus on the participants' efforts to engage the community. All of the interviews were digitally recorded upon consent of the participants. In addition to the interview transcripts, the ENGOs' social media posts were part of the study dataset.

The interviews ranged from 40 minutes to one-and-a-half hours, all conducted and recorded via Zoom, and transcribed automatically through an online transcribing service. The interviews with Brazilian participants were conducted in Portuguese, which is the author's native tongue, and excerpts were later translated to English by the author. Based on the participants' status within their organizations; questions in the interview protocols varied depending on if they are an employee, or an administrator (Appendices A and B). The transcripts resulted in 214 pages of content.

Social media posts were also analyzed for the present study, and, according to their websites, the ENGOs are on Facebook, Instagram, Twitter, and YouTube. The posts were collected only from both ENGOs' Facebook and Twitter. YouTube and Instagram were left out since GEO was not present on the platforms during the selected time period. Given the repetitiveness of most posts in both platforms, 20 percent of all content was selected for analysis, posted between election day and inauguration day in both countries: October 28 to January 1st, 2018, for Brazil, and November 6th to January 20th, 2016, for the United States. This time frame was selected since it was during these times that both countries were first feeling the effects of the upcoming administration. The posts came up to 88 pages of content.

Interview transcripts and social media posts were qualitatively analyzed using the inductive thematic analysis approach developed by Braun and Clarke (2006). Using the inductive

analysis means going through the coding process without any preexisting coding frames in mind, as opposed to walking in the coding process with preconceived themes. This type of coding is data driven and can even lead to themes that evolve to new research questions. The multi-stage thematic analysis approach involves familiarizing yourself with the data; generating initial codes; searching for themes; reviewing themes; defining and naming themes; and producing the report.

Chapter V

Findings

The findings of this study highlight the deep connection between participants' identities and their work. Success stories were surprisingly personal and emotional, suggesting that smaller-scale, interpersonal efforts in environmental communication focused on culture and community identity can be highly effective in social behavior change. Four main themes and seven subthemes were identified in the interviews over three rounds of coding. The first, "This is a Love Story," refers to participants' personal trajectories in environmentalism; what keeps them motivated, and the challenges. Many participants described their work as an NGO as "Filling in the Gap" left by the government, the second main theme, that dives into the role of ENGOs in society. "Heartbreak after Heartbreak" was used to describe the routine these participants have doing their job, which is and was especially true to many of them during the Bolsonaro and Trump administrations. This section refers to how the political climate influenced their work. A participant characterized communication as the "antidote to the poison" that is misinformation and extreme political leaders. The final theme, named after the participant's description, looks into their strategies, accomplishments, and challenges in environmental communication and influence.

This is a Love Story

When looking back on their stories and tracing how they first got interested in the environment, many participants attributed their interest to the nature of their upbringing. Whether that meant growing up in close contact with nature, or having an environmentally conscious parent, most participants' pro-environmental behavior was shaped during childhood years, by family members and their surroundings. Among the reasons that stood out from that pattern were college professors and professional connections that worked with the environment; travel to global south countries in Latin America, and nature documentaries and television shows.

A common ideal was observed among all participants' answers: one does not work with environmentalism in the non-profit sector without passion and resilience, especially during the political and economic contexts both countries have been in for the past years. Many reported they don't consider it work; as in a position occupied from nine to five, separated from the personal self. To them, environmentalism is an activity impossible to clock out of and leave behind in an office, as described by Participant BR-2: "I can't separate conservation from who I am. I breathe it. I wake up thinking about it. All of my attitudes, all of my plans (…) all of my choices are based on conservation." Participant BR-3 shares an inside joke that runs among the employees at SPVS, that reflects how they see their occupation as more than a job: "We say that we don't work at SPVS, we are SPVS." Participants used words such as mission, purpose, ideology, and life to characterize what working for an ENGO means to them, and reported feelings of pride and honor in doing so. To Participant US-1, "there's no way to get things done unless we're all doing our small part." For Participant BR-1, working at SPVS is their "life" and

their “DNA.” Participant BR-2 described their professional trajectory simply as a “love story,” one of not giving up when things get hard.

Participants are fighting for the greater good, for environmental justice, and for biodiversity. For a world in which all have fair access to basic fronts of human dignity—such as clean water and air—which is fully dependent on the state of the environment. Participant BR-8 describes their cause as the search for “a just and equitable future in which all citizens can benefit from, and work alongside the environment.” They are committed to protecting what remains of the natural world, restoring what has been destroyed, and, importantly, shifting an entire culture that is based on the misinformed notion that progress and development are antagonistic ideas to sustainable practices and a healthy environment. This is especially true for the SPVS participants, that have the concept “nature production” as their guiding principle. Nature production sees sustainable practices as a profitable business model like any other. Brazil, according to Participant BR-1, still operates under the “conventional culture of ‘progress at any price,’” in which conservation and sustainability are nothing but obstacles. In Participant BR-3’s view, people have a shallow view on what the environment means to the collective.

Drying Ice. A unanimous sentiment observed among all participants is that they never feel completely satisfied with the amount of work they put into their cause. The Brazilian expression “drying ice” came up multiple times. Picture the act of attempting to dry ice; one could try for hours and, obviously, the ice would always remain wet. This accurately represents participants’ perception of what they do, which is working tirelessly, seemingly pointlessly, often disappointed at the constant lack of results. Both Participant BR-8 and Participant BR-9, who worked in government for years, affirm that, at least in Brazil, politics and business are what dictate the fate of a specific area. They have the final say, and any other player is irrelevant. To

Participant US-7, working in the non-profit world is “a losing game (…) heartbreak after heartbreak.” Even so, while all participants from both countries share the thought that more work should be being done, most of them also acknowledge that they have to make an effort to not feel responsible about what they cannot control, and maintain a work-life balance for the sake of their mental health. This is described here by Participant BR-5:

> I always think I could be doing more and more, but then a reality check called ‘night and day’ comes in. We don’t have enough time in a day to do more than what we do. More than that, we would have to stop sleeping (…) From the moment I wake up to the moment I go to sleep, weekends, holidays, I give my full dedication. I wish I had more hours, but it comes to a point in which the body says “man, I can’t do this anymore.

On the subject of working their communication strategy, both institutionally and personally, Participant BR-3 sees enormous growth for their organization over the past 3 years. Even so:

> It’s insufficient. It’s always insufficient. (…) We blame ourselves and strive to find better strategies to better our language. *This is where our improvement comes from: a guilt that is not ours to carry.* (…) We’re left thinking ‘am I not doing a good job explaining my work? Why can’t I get these companies to invest in conservation? What am I doing wrong?’

Participant BR-3 addresses a sense of guilt for not achieving more concrete results in their attempts to foster new partnerships with governments and businesses to participate in conservation projects. It has been made clear by participants that their occupation as environmentalists is not an occupation, but a large part of their identities, rooted in their sense of purpose. Although Participant BR-3 understands that the lack of results does not reflect a lack of commitment, but, in fact, a lack of interest from a system that historically has failed to prioritize the environment, they still feel personally responsible for the failed attempts of persuasion. Pride in success stories and a strong sense of duty are what keeps them from giving up. Participant BR-7 was offered multiple better-paying and more stable positions in the industry, which they turned

down because they believe their mission to be “noble.” Participants from both ENGOs highlight the work done in their local communities, and express feelings of belonging and pride in fighting for and contributing to the wellness of their homes.

The Middleman

Another common belief throughout all participants’ answers from both countries is that ENGOs act where the government fails to. Without them, they believe there would be no one working for the environment, which became especially true in the face of Presidents’ Bolsonaro and Trump’s anti-environmental administration. ENGOs were described by Participant US-2 as “the middleman” between the technology and science, and the general public. While participants perceive those who work with ENGOs to be resilient, passionate, and proactive, Participant BR-9 describes public servers in the environmental sector, those who work for the government in policymaking, to be the polar opposite: “unmotivated people, with no mission, guided by the ‘nothing I do will change anything anyway’ mindset (…) We do what the government doesn’t, three times faster and for half the price.’” Similar to what Participant BR-3 reports, this can also be a reflection of an overarching structure that has never considered the environment as a central aspect to development. According to Participant BR-2, environmentalism is viewed globally by governments as a luxury item, and, to Participant BR-1, ENGOs have the responsibility of understanding these challenges and filling those gaps, making them an essential piece of the puzzle.

The main challenge in working for an ENGO, reported by participants from both countries, is the constant lack of sufficient funding, which, in turn, brings financial instability to those who are employed by the organization. Also, not having a clear career path is considered by many as a downside to being in the non-profit sector. Since environmentalism is just now

becoming more institutionalized, Participant US-5, the youngest of all participants, feels that "there aren't many examples of people whose footsteps I can follow," which makes them "walk forward in blind faith." Participant BR-3, who is responsible for staff management at their organization, reports that employees often have trouble fitting into an institution that is unable to offer them a conventional career plan, with clear goals to be reached, and the promise of promotions and salary increases. While this challenges those entering the field presently, it is also an opportunity they have to set the standard for the coming generations of environmentalists in the non-profit sector.

Coming Together. Participant BR-3 stated that "those who work with the environment know that you can't do anything alone," and that partnerships with government, businesses, academic institutions are "necessary for the survival of ENGOs." However, the lack of unity and cohesiveness among ENGOs both in Brazil and the US was a topic of concern brought up by several participants, especially when compared to large highly organized groups that work in favor of agrobusiness or non-renewable energy initiatives. Participant BR-6, who works in a project within their organization that connects ENGOs of three states with a common purpose, and Participant BR-9 explains:

> We discovered several people, from the private sector, from the non-profit sector, from government agencies, all doing amazing work on their own. Disarticulated. *Many had no idea the other existed, feeling like they were alone.* (Participant BR-6)

> You have small institutions that have a relevant role, mid-sized and large institutions as well. But, for example, the private sector and agrobusiness people are all united and fighting for the same goal. With us it's all very scattered. (Participant BR-9)

Participant US-7 attributes this disaggregation to the fact that "their livelihood depends on fighting for the same buckets of money (…) And so what happens is they get steamrolled by (…) lots of different opponents." Participant BR-3 believes that the political climate, the

pandemic, and the consequential decline in funding have weakened the environmentalist movement, forcing ENGOs to look after themselves only. In contrast, Participant BR-6 perceives the extreme "anti" nature of the current political climate towards any social movement to have caused unprecedented unity among organizations with different missions, such as human-rights, racial justice, pro-LGBTQ+, and feminist organizations. Both Participant BR-8 and Participant US-2 agreed that there are two approaches ENGOs can take to create change, and one can't exist without the other: either being combative towards government, assuming a more activist position and demanding action, or working from within, strengthening the institutional ties between government and non-profits. When government perceives the demands of the outside organization to be too much, according to the participants, it will turn to the more-acceptable demands of the inside organization, which is already a win.

Heartbreak after Heartbreak

In the eyes of multiple participants, the impact caused by both presidents in Brazil and the United States to the environment is unquestionably negative and real. No participants had anything positive to point out from administration policies and the way they handled environmental matters. With that said, Brazilians reported more extreme views on Bolsonaro, and the seriousness of the damage done by him, while Americans showed milder views on the consequences of Trump's term. This could be reflective either of the country's culture and tradition in environmentalism; the actions of these two presidents; or simply of the fact federal policymaking in Brazil directly affects SPVS's work and opportunities, while GEO deals with the governor of the state of Ohio. Brazilian states do not have the same autonomy American states do, and are therefore more vulnerable to the actions of federal government.

Overall, Brazilian participants observed Bolsonaro's actions to have an irreversible impact in several fronts, and in some ways changed the way they do their job on a daily basis. His election was seen as an aggressive rupture point for the state of Brazil's environment. Brazilian participants agree that while there has never been an administration truly acting for the environment, previous governments were not actively acting against it by dismantling policy and constantly feeding anti-environment discourse. Participant BR-1 characterized Bolsonaro's actions as a "geological mark" on the history of Brazilian environmentalism, and considers leaving the country with their family if he is ever reelected. Looking back, Participant BR-9 highlights the environmental progress made in the past two administrations, pointing out how most of it went "down the drain" with Bolsonaro. There are much fewer opportunities for government funding of environmental initiatives, something Participant BR-2 has never seen in over 30 years working in conservation. In the excerpt below, they mention what has become known in Brazil as "Fire Day," in which Bolsonaro supporters all over the country set fire to protected areas and indigenous territories, to open space for agricultural purposes:

> He's doing exactly what he said he would. He never lied to anyone about the dismantling of the environmental field (…) It's coming to a point of irreversibility. The deforestation in the Amazon, Fire Day, all of Brazil was on fire that day. He's destroying government agencies, ENGOs, *quilombola* and indigenous territory. He's doing it. He's actually doing it. And *he's doing it with his head up high because there are no consequences.*

What Participant BR-2 is portraying here is that Bolsonaro, similar to Trump, has repeatedly been praised for his lack of filter as an outsider in politics. He has indeed never lied about his intentions with the environment, and, by surrounding himself with public officials with a shared purpose, he has been able not only to advance his interests in agrobusiness, but also influence a significant portion of the country to praise him for his "honesty." Participants, as the ones featured in the following section, agree that his violent discourse toward environmentalists,

scientists, and NGOs, and how it has made its way into the Brazilian population, is the most dangerous aspect of his administration.

Women at Risk. Brazilian participants believe the single most dangerous aspect of Bolsonaro's presidency is in how he empowers people to be violently against what shouldn't be a controversial subject, strengthening a confrontational culture of hate towards science and environmental causes, or any social movement. In this excerpt, Participants BR-2, BR-4, and BR-10 talk about the reality environmental workers are facing, especially women, when conducting fieldwork:

> I've been threatened on the road. The guy told me where he would get me and how he would kill me (…) I've been through situations of extreme sexism in meetings. Imagine, just me sitting at a table with ten men in suits, you know? There's always flirting, or some comment about me being inferior or stupid. (Participant BR-2)

> These people are being stalked. They're being observed. We know stories of tapped telephone lines. I won't say it's the country with the highest number of dead environmentalists, but I believe it is one of the most dangerous ones. Especially in the Amazon. Here in the South it's not easy either. We have to be careful, especially us, women. You get to a place and you can't talk about conservation or environmentalism in an open way. We have to be careful. (Participant BR-4)

> Your life is at risk. I've encountered hunters carrying guns right in front of me. It's very unsafe, for women especially. I'm not too scared of hunters, but it's a risk. One of our consultants here was sexually harassed (…) land-owners are empowered in knowing they don't have to do anything, that they can walk around with guns, that they can hunt, that the law means nothing. (Participant BR-10)

Instances like the ones described by these women are part of what makes their work go beyond a job. While danger is an inherent part of some jobs, fearing for you safety in this way should not be part of the routine of an environmental non-profit worker. While the participants state that this is not completely new to them, they do believe their work conditions have worsened since the election. If examples so extreme like these are true, one can assume that every other aspect of working in this sector, at least in Brazil, is facing analogous effects.

Walking on Eggshells. According to Participant BR-9, Bolsonaro's election extinguished all opportunities for dialogue both with the government and with amongst the people. To Participant BR-5, created such a negative public perception of the work ENGOs do that it transformed the way the organization creates content:

> The empowerment, the extreme right movement (…) I think the fight now is bigger. Before you could propose dialogue, now *you have to be more aggressive and fight harder, or they'll walk all over you*. (Participant BR-9)

> *I have to simplify the message so much that a lot is lost*. Our biologists and researchers get upset that we don't tell it like it is. But we can't. We can't because people won't understand. That's the problem. And if they don't understand it, they twist it. We walk on eggshells because anything… We posted a video of a biologist working and 'Oh, biologists are stealing money to grow weed!' It's absurd, you know? We have to be so careful, and that was only a video of a biologist setting up a camera. I'm extremely careful with the images I use and how I use them (…) It's in the fine details, so they don't twist the facts (Participant BR-5).

A few negative cases (Lindlof & Taylor, 2017) were observed among the American participants, such as Participant US-1, who argued that four years wasn't enough to cause that much damage. It did, however, made them more careful when talking to people about the environment in their community. Participant US-7 said the field didn't change as much as they thought it would, and Participant US-4 doesn't believe Trump's influence changed the way American ENGOs work drastically, since "that kind of fluidity" and the constant adjustment of the message is needed to reach specific audiences. It is noteworthy that GEO is a non-partisan organization and does not show support for any specific party or candidate. Participants did mention the politization of environmental issues, and Participant US-7 pointed out how "being a non-political organization can be disarming." Both Participant US-3 and Participant US-6 perceive the field to be in worse shape and increasingly polarized, as described here by Participant US-3:

> Not only do we not see support for the clean energy work that needs to be done, but we see some active opposition to it. And it's unclear what the basis for that is. I mean, it shouldn't be… This issue shouldn't be partisan. There are Republicans and Democrats who support these issues, but there is some *ideological aversion*.

On the other hand, several American participants pointed out a positive consequence of Trump's anti-environment actions: a sharp increase in public awareness:

> They don't necessarily know if it's important, but they're paying attention (…) They didn't care to know because it seems once you get out of social studies in high school it's like: 'Why would I care about Congress? Why do I care what's going on?' And to watch the president and his administration kind of affect people's daily life – and it's not my daily life as an individual, but my neighbor or my friend – to see people so directly affected, definitely people are paying more attention (…) *if the people aren't paying attention (...) anything could happen, and anything did happen.* So now people are looking up. (Participant US-2)

Brazilian and American participants believed their leaders' actions cut ties with the international community, seriously impacting the state of the environmental movement in Brazil and in the United States. Both countries are struggling without the funding opportunities they once counted on from nations that have since ceased to invest due to the environmental irresponsibility displayed by these administrations.

Communication is the Antidote to the Poison

When it came to communication, participants reported different strategies for the two aspects of their life in which they communicate about the environment: the ENGO's strategy, and their personal strategy. In the personal life realm, the majority of participants reported seeing more positive responses and changes in behavior through conversation and example. Many also pointed out the value in having people experience nature first-hand. Activity on both personal and institutional social media had participants divided; while some reported observing great levels of engagement and connection with their followers, others pointed out the danger of echo chambers, and how their posted content likely only reaches those already interested in

environmental news and issues. Participant BR-1 characterizes communication as "the antidote to the poison," but doesn't believe the organization's strategy is efficient in reaching those who aren't already passionate about the subject. Similarly, Participant US-6 believes GEO's communication strategy to be "best for people who are seeking that type of information."

Participants were mostly satisfied with their respective organizations' communication and outreach strategies, but not fully. Almost all of them had suggestions on how to improve it, or, at least, opinions on where exactly they were failing. Participant BR-4, a biologist and researcher, immediately highlighted the difficulty scientists have in communicating their work, because of the expectation of obtaining absolute certainty about an issue before making any statements—which is incredibly difficult to do in, for example, climate communication. If environmentalism is, as said by Participant BR-2, a "luxury item" to most countries, a communication department is the "luxury item" to many ENGOs. Organizations like SPVS and GEO are funded through grants for specific projects, and, according to Participant BR-2, most of the grants do not include funding for communication. None of the participants had any training in environmental communication, being them from humanities majors or STEM majors. Even if the organization has a trained communicator as an employee, this training, according to participants, is rarely focused on the challenges specific to environmental communication.

It's How You Say It. While the ENGOs that participated in this study come from distinct backgrounds, function with different structures, each striving to achieve specific goals, both organizations face the challenge of perfecting persuasion strategies. In both cases, all participants showed themselves to be aware of the importance of communication in the environmental non-profit world, even if said awareness has only been sparked in the past few years. Across both countries, all agreed that three main strategies in environmental content creation are to use the

most accessible language possible, contextualize the problem, bringing it to the audience's daily life, and rely on visuals—videos especially—to grab the audience's attention. To Participant BR-1, it all comes down to telling good stories. Stories that spark in the audience a sense of belonging, and the desire to care. Participant BR-5 and Participant US-2 also emphasized the value in using the "this is your home" strategy:

> When the person starts to realize that is theirs, that is part of their region, and that is a more accurate representation of who they are than anything coming from the outside, they connect and feel inclined to protect it. (Participant BR-5)

Contextualizing the issue to the audience's day to day life and exposing it under the light of cultural importance has been a successful strategy in the opinion of these participants. By doing so the communicators are pointing out how environmental problems threaten who they are as a people, which, reportedly, sparks in them a sense of protectiveness and care. Further more, the majority of participants agreed that messaging must be more positive than negative, but reported struggling in crafting a message that is both optimistic and an honest representation of the grim reality at the same time. Participant US-2 believes there is no way to find that balance:

> The disaster approach, honestly, would be the truth. I think telling the whole truth is not what people want. *They don't want the whole truth. They want to know how things can be better.* They want to hear about solutions and how they can be a part of those solutions. How their vote or how their dollar can make an impact.

Participant 9 was the only participant to mention exposure on traditional media, such as established national news TV programs, as a strategy they should be relying on more. What they pointed out about communicating environmental issues in Brazil also rings true for the United States:

> We are a plural, continental country. You tell stories in a macro scale in Brazil. The fires in the Amazon; we're affected by it here in Paraná, but that isn't clear to the population. When you regionalize, make it a smaller, it gets easier. But then if you regionalize too much, the problem becomes too small… It's hard to deal.

What these participants are reporting is an internal struggle to allow what they know to be effective and what they know to be true to coexist. They are presenting a challenge that is urgent yet doable, unsettling enough to incite attitude change, yet digestible enough so it does not incite apathy. They must portray a global issue through a local lens, while also highlighting how we are all part of a complex interconnected system, and we might not be the ones immediately suffering from the choices we make daily. Finally, they must do so in a predominantly hostile environment, in which they are largely untrusted by the audience, and severely mistreated by the system.

Environmental Justice. Participants, mostly Brazilians, also pointed out deficiencies in the environmental education programs that have been the same in schools for decades. Focused solely on specific issues such as recycling and water conservation, these programs don't contemplate the relationship between nature and society, and how the students' daily lives depend on the well-being of the natural environment, according to Participant BR-2. When this message is communicated effectively, following the "sensibilization, information, and instrumentalization" principle brought up by Participant BR-2, highly impactful results of sustainable behavior change can follow:

> We did a teacher training program during an entire year in a county outside of Curitiba, in Campo Largo (…) We noticed the teachers understood the idea and started to execute it (…) One day, I was at work and I get a phone call from the Secretary of the Environment of that town (…) to tell me that they were getting more complaints than they could handle of animal trafficking and deforestation. That had never happened before in that county. We looked into who were the people making those calls, and they were the children's' parents (…) The teachers did such a great job with the kids, that the kids took it home – and these were kids from ages six to 10 – and influenced their families (…) The best thing about it is that this was four years ago, and it hasn't stopped (…) They had to hire more people and upgrade their system. (Participant BR-2)

Accessibility. American participants were much more vocal and aware of intersectional environmentalism compared to the Brazilian participants. One important goal for GEO is to work

on the diversity of its members and create content specific to the struggles of underprivileged racial and ethnic communities. According to Participant US-1, the events that occurred in the summer of 2020, sparked by the murder of George Floyd, made the organization more aware of racial inequalities and injustices—that are just as prevalent when it comes to environmental insecurity.

Brazilians did not mention diversity or racial issues. However, given the nature of the work SPVS does with conservation in private rural properties and protected areas, the social impact in said communities is a substantial aspect of its projects. SPVS acts in several smaller towns along the Paraná coast, as well as rural areas in the middle of the state. Participant BR-1 and Participant BR-7 describe the social impact pro-environmental projects have in these communities:

> Our biggest asset today are our employees. They used to hunt, they used to clear out tree-covered areas to harvest heart-of-palm. They had an extremely unhealthy work life, under the sun all day, non-alphabetized, no formal contracts. SPVS was very careful in working with the community. We created a human resources department and hired sociologists to work with these communities and change their perceptions. They had to re-learn. (…) We offered dignity and respect, while they offered a knowledge of the land that none of us had. This exchange is unique, and very important. (Participant BR-1)

> We were for the longest time the second largest employer in the Antonina region, with over 70 employees. These were people who had no formal jobs before, working in farms in a condition similar to slavery. Their quality of life improved dramatically once they were formally employed, with health insurance, dental, and so on. (Participant BR-7)

Connecting with the members of these communities can be challenge. Participant BR-10 and Participant US-2 spend a considerable amount of time in the field, the first in Brazil and the second in the United States, working with farmers, attempting to get them to participate in their conservation and restoration programs. The changes being pushed by the environmental movement, however appropriate they are for the environment, threaten the livelihood and lifestyle these groups have always known. Their values and identities are rooted in an occupation

that is disappearing with the rise of greener practices. Participant US-2 reports how the farmers and coal miners GEO works with have lost their "sense of self" in the transition to renewable energy. Persuading them to invest in more modern alternatives by showing they can regain that same sense of purpose, simply using a different tool, is an essential aspect of the culture shift GEO is working to make a reality. Establishing a relationship rooted in humility and understanding is important to Participant BR-10, who frequently brings up their family history in farming to start the conversation:

> We have to reel them in with their day-to-day lives, and let them show us that they know things too (…) I never say I'm an engineer. "This is wrong," I never say that. I think the main thing is to be humble, you know? *We have to think that culturally they're like that*. (…) They didn't go the same schools we did, they didn't go to college, they watch public television and don't have access to environmental content (…) I always start off by connecting with them personally. 'Yeah, my dad was also a farmer! You know that tree over there? It's not great for this region…' You can't talk about conservation, or animals. It's all about their own personal gain. Or else they won't do it. (Participant BR-10)

> They're the communities that have been ravaged by coal. And now there's an absence of, you know, there's no economic driver, there's no jobs. Pretty much all you have is a gray city, with a lot of land, with a lot of soot. (…) When speaking to those communities, the focus is just the economy (…) You don't talk about climate change. But, you know, 'we're being stewards of the environment,' especially as farming and coal communities (…) having supplemental revenue that will be there even after they die, when their grandkids are taking over their farm, that means something to them. *To be able to save their sense of self.* Who they are as farmers or coal miners. It's a difficult transition, but it's really a similar train of thought (…) *giving them a sense of self rooted in their purpose and in their work (...) without ever saying 'climate change.'* (Participant US-2)

Finally, Participant BR-4 also brought forward a significant failure in their environmental communication strategy: while many communicators focus their efforts in building a strong online presence, the communities that are primarily affected by the destruction of the environment, and, therefore, the ones that most need this information, are somewhat isolated groups, in regions with no internet access.

Social Media Posts

The analysis of the social media posts was intended to reflect the challenges and strategies described by the participants during the interviews. However, a lot of what was reported by participants as their most significant experiences with communication happened outside of social media, when they were actively engaging, face to face, with a variety of communities. While it was still possible to observe some of SPVS's strategies contained in the posts – strong reliance on videos and images, use of accessible language, portraying positive messaging about themes related to the regional environment – the majority of GEO's social media posts were not original content, but shared content from external sources. The analysis of the Facebook and Twitter posts revealed five main themes touched upon both ENGOs: 1) Environmental News; 2) Opinion; 3) Politics; 4) NGO Announcement; and 5) Education.

Environmental News. The overwhelming majority of posts on both platforms, from both organizations, were focused on environmental news. For SPVS, that meant news related to its projects related to conservation; specifically, its work with species conservation. For example, in the following two extracts, the first taken from a Facebook post and the second from a Tweet, it celebrates the results of the organization's 20-year-long effort to save the Red-Tailed Amazon, a species of parrot endemic to the coastal biome of the Atlantic Forest, essential to seed dispersal:

> The Red-Tailed Amazon Conservancy Project team gathered today with volunteers, partners, and friends to celebrate the results of the populational monitoring of the species. In 2018 the Project celebrates 20 years of activities, that united over 50 thousand people for the protection of the Purple-Face Parrot and its natural habitat, the biome of the Atlantic Forest. In the next few days, we'll share more of this story. Stay tuned!" (Facebook; October 29th)

> For the first time, Red-Tailed Amazon Conservancy Project registered parrot occupation and reproductive activity in an artificial nest, in São Paulo. In 2016 20 artificial nests were installed in the counties of Ilha Comprida and Pariquera-Açu. (Twitter; December 11th)

In two Twitter posts, excerpts of a story published in the local newspaper, SPVS points out concrete results of conservation efforts in the area. The first one features the comments of a specialist, and the second has the link to a video:

> For biologist Roberto Fusco, the conservation efforts in the Atlantic Forest are the big reason why we're seeing the white-lipped peccary again. 'With a reduction in illegal hunting and the efforts to recover degraded areas, they are now probably feeling safe." (Facebook; November 5th)

> White-lipped peccaries in risk of extinction are seen on the coast. At least five white-lipped peccaries were seen in a protected area in Antonina. Watch on Gazeta do Povo: gazetadopovo.com.br. (Twitter; December 11th)

For Green Energy Ohio, on the other hand, environmental news meant sharing articles written by other organizations and news sources, about renewable energy. On Facebook, nearly 70 percent of all posts were articles in full on its feed, along with the proper credits and link to the original publication. On Twitter, 80 percent of GEO's tweets were the headlines and links to the same stories shared on Facebook. All of its environmental news posts were in reference to renewable energy, mainly in the state of Ohio. Below are a few examples:

> Ohio lawmakers to make green energy mandates voluntary until 2020
> Cleveland Plain Dealer – John Funk

> Ohio Republican lawmakers inched closer to a standoff with Gov. John Kasich Wednesday when the House Public Utilities Committee approved a bill that would, in effect, continue the two-year freeze on rules requiring power companies to provide green energy and energy efficiency programs. (Facebook; December 1st)

> Google Says It Will Run Entirely on Renewable Energy in 2017 New York Times – Quentin Hardy http://nytimes.com/2016/12/06/technology/google-says-it-will-run-entirely-on-renewable-energy-in-2017.html?partner=rss&emc=rss (Twitter; December 6th)

Education. For Jaguar Day, SPVS shared a Facebook post that explained the reasoning behind the creation of Jaguar Day, then highlighted its accomplishments in the Jaguar Monitoring program, shared information about the animal itself, and, finally, concluded with a

call to action. This was the only post in the sample to follow this structure, in which it used a newsworthy event as a hook to educate followers both on the animal and its habitat, while also promoting the organization's work:

> Today we celebrate Jaguar Day. The date was created with the objective of unifying efforts for the conservation of the largest feline in the Americas, and for raising awareness of its ecological, cultural, and economic importance. This year we have one extra reason to celebrate. In August, we shared never-before-seen footage of two jaguars in the Paranaense Sea Mountains, the largest remaining area of Atlantic Forest. Because they are apex predators, jaguars need large and healthy areas of forest to survive, which is why they are increasingly rare in nature. We must come together to protect out nature, our Atlantic Forest, and all the biodiversity that depends on it (Facebook; November 29th)

GEO's post that stood out in Education was a *Vox* article posted on Facebook, in which the author, interviewing an expert source about renewable energy, uses an interesting resource to translate the technical terms used by the expert:

> Just as friendly warning: The conversation gets pretty deep in the weeds, and uses some terminology that might not be familiar to non-nerds. Along the way, I will explain key terms and concepts in {curly brackets}, to help everyone follow along. To be clear: everything inside the {curly brackets} is my language, added after the fact (Facebook; January 19th)

> The cost of delivering electricity to end consumers changes across time and location due to the variability of electricity demand. {Electricity use rises and falls throughout the day, typically reaching a mid-afternoon "peak." It also rises and falls throughout the year, spiking during times of particular heat or cold.} (Facebook, January 19th).

Another strategy adopted by a journalist from the *Daily Kos*, in an article also shared on GEO's Facebook feed, was to close a story on how solar became the cheapest form of energy in many countries with a reference to the 1967 musical Hair:

> As James Rado and Gerome Ragni wrote in the 1967 musical Hair, "Let the Sunshine In." The words were for a different context, but they seem strangely prophetic today.:
> 'We starve, look at one another, short of breath
> Walking proudly in our winter coats
> Wearing smells from laboratories
> Facing a dying nation of moving paper fantasy
> Listening for the new told lies
> With supreme visions of lonely tunes' (Facebook, Jan 4th).

Bringing in a cultural element to a piece of scientific writing is an effort made by the author to contextualize and bring the information closer to the audience. It makes the issue less abstract by connecting it to something that is already a known and possibly even cherished part of the reader's life.

Opinion, Politics, and NGO Announcements. While the majority of GEO's and SPVS's posts were of environmental news, others fell into three different categories. The first of the extracts below was coded for Politics, since it is encouraged followers to vote, the second through the fourth were announcements of events hosted by GEO and SPVS, and, finally, the last is a statement made by GEO's then leader, contained in an article written by another vehicle, which was categorized as "opinion":

> We live in a free country, with freedom of speech, freedom to live your dreams, freedom to do pretty much whatever you want as long as it doesn't hurt anyone–but with that freedom comes responsibility, and voting is our responsibility (…) ROCK THE VOTE. (Facebook; November 8th)

> Ohio's Green Energy Future Conference (…) REGISTER On-Line by Tuesday, November 15 at: http://bit.ly/2eSbemH (Facebook; November 15th)
> SPEAKERS AT Ohio's Green Energy Future Conference: Friday November 18th 8:30 am to 4:30 pm Hilton Columbus Downtown http://bit.ly/2d7rEYL (Twitter; November 14th)

> We're the seventh-largest state," Bill Sprately, executive director of Green Energy Ohio, said at a Nov. 18 conference in Columbus. "If we don't start paying attention at the government level, the other states are passing us by." (Facebook; November 29th)

> Click on the link for today's edition of the "How Will it Be" show, to learn about our Nature Conservancy School project, and our Red-Tailed Amazon Conservancy Project. https://bit.ly/2PHmQKD

From all analyzed posts, the following one stood out since it illustrates quite clearly what many participants described when talking about their strategy to create content and communicate about environmental issues. Several of them referenced the "finance angle" as the most efficient and used approach in convincing communities to adopt renewable energy alternatives:

> Going solar
> *Marietta Times* – Breckin Wells
> Solar power is arguably the cleanest, most reliable form of renewable energy available (…) Top five reasons to be energy efficient:
> – Energy efficiency saves you money.
> – Energy efficiency improves the economy.
> – Energy efficiency is good for the environment.
> – Energy efficiency improves national security.
> – Energy efficiency enhances the quality of life (Facebook; December 3rd).

The economic side weighs heavier than the environmental side, according to the participants. In this post—an article from the *Marietta Times*, shared by GEO on Facebook—the author lists the benefits of going solar. It is possible to observe that the first two items on the list are related to savings and the economy, while the environmental benefits only come in after, along with national security and personal benefits.

The analysis of SPVS's and GEO's social media posts showed that, although both organizations share similar beliefs on how to, theoretically, create content for their online platforms, the two ENGOs differ dramatically on the content that is in fact posted. GEO mostly shares stories written by other journalistic sources on both its Twitter and their Facebook page, and a post with original content created by the organization is a rare sight. It is extremely active, usually posting several times a day, every day, with posts generally long in text and lacking in original visual content. GEO thoroughly follows and reports local policymaking, keeping its followers informed on local environmental news. Even though the sample consisted of posts collected between election and inauguration day, the majority of posts did not mention or had no relation to Trump's ascent to office. In SPVS's case, on the other hand, posts were shorter, sparser, and mostly original. The content was mainly about the organization's achievements, referencing specific projects and celebrating positive results. It also shared stories by local newspapers, and announcements of future events held by the organization. Like GEO, even

though the sample was collected amidst Bolsonaro's rise to power, no posts whatsoever mentioned the president, or any possible concerns about what his administration might do to the environment.

Chapter VI

Discussion

As trusted information sources, ENGOs are in the unenviable position of truth-telling in a way that motivates action rather than the feeling of helplessness (Brulle, 2010; Lorenzoni & Whitmarsh, 2007), which is environmental communication's main goal (Cox & Pezzullo, 2018). In response to RQ1, about how ENGOs communicate environmental messages, both organizations shared a few guiding principles, and fight similar obstacles, most of which are consistent with previous literature: their struggle with communicating a grim truth without sounding too alarming or pessimistic (Hoewe & Ahern, 2017; Hu & Pratt, 2017; Liang, Kee & Henderson, 2018); the challenges of using accessible language without oversimplifying scientific knowledge (Gustafson & Rice, 2020); breaking out of echo-chambers; their reliance on visual communication strategies (Harris, 2017; Hespanha & Rice, 2016; Thakadu, Irani & Telg, 2011), such as filmmaking and photography; and, finally, a strong use of the "home" angle to contextualize the issue and connect with the audience (Barnosky, 2016). These could be an indication that the audience's engagement is more connected to the idea of protecting what is theirs, instead of embracing this lifestyle for the sake of the global environment. The constant worry with language and tone, fueled by the fear of misinterpretation, can be seen as a defense mechanism in face of a distrusting public. The frightening future these organizations are obligated to share is a communicative challenge in itself. It becomes even more severe when the audience is politically and culturally resistance to the topic.

RQ2 asked how ENGOs measured their success in communication, and the answer lies not in the number of likes or views, but in the moments in which employees are personally involved in consistent efforts of creating social change, by communicating about the environment. Mass communication strategies are widely covered in literature. Interpersonal environmental communication, however, is not. The events hosted by GEO to educate rural communities on the benefits of solar energy in Ohio, and SPVS's conservation and restoration projects in areas riddled with animal-trafficking and illegal deforestation cases, are only a few examples of the connection made by the ENGOs with groups that, initially, had little to no interest in pro-environmental practices. Farmers, coal miners, and hunters were frequent characters in the participants' most proud moments. Jarreau, Altinay, & Reynolds (2017) have previously pointed out the importance of knowing your audience in environmental communication, and SPVS's and GEO's patient, tailored, and respectful approach to previously antagonistic fronts led to palpable, quantifiable, and, importantly, sustainable change.

Regarding RQ3, that questioned how the current political climate influenced the ENGO's work, participants from SPVS appeared to be significantly more affected than participants from GEO. Data from recent years of research has presented climate change and environmental issues alike to be more widely accepted in Brazil, compared to the United States. It has also shown—prior to the pandemic, at least—global concerns to be more on the minds of Brazilians than Americans, who appeared to be more in touch with domestic issues (Poushter & Huang, 2019; Wike, 2016). Brazil-based study participants expressed strong opinions on how Bolsonaro's administration is doing irreversible damage to the environment, while Americans showed milder views on Trump's actions. The few observed outliers who believed the administration did not have that serious of an impact on the country's environment were all American. While the

mentioned survey data references the general Brazilian and American population, and the analyzed sample in this study is a representation of relatively small, regional groups of environmentalists, the present findings are consistent with the literature that highlights Brazilians' greater intensity toward the environment, when compared to Americans (Dayrell & Urry, 2015; Newport, 2019).

The statements of several Brazilian participants help answer RQ4, on how exactly the political climate has affected their work and messaging strategies. The reported oversimplifying of information and extreme care for anything that could possibly be used out of context and twisted against them can be connected to the rise of far-right movements in the country (Kakutani, 2018). All of the interviewed Brazilians believe Bolsonaro's discourse, and the way it empowers people to be violent and ignorant, is perhaps even more dangerous to the nation than his actions as president. Brazilians that have been in the field of environmentalism for decades report that there has never been less room for dialogue, and more active attacks on science and the environment (Casado & Londoño, 2019; Silva, 2020). Aligning with previous research that showed Americans' views on environmental issues strongly connected to partisan affiliations (Poushter & Huang, 2019), American participants reported they too struggled with the rise of active ideological opposition to greener technologies in the energy sector, and the polarization surrounding the matter. The political climate did not change entirely the way they communicate, in answer to RQ5, but several Americans state that they are now more careful than before in wording their messages. Since phrases such as "climate change" for example, have become so heavily politicized (Barnosky, 2016), they avoid them completely.

While tailoring specific messages for specific target audiences, mindful of language and tone for each one, is a key aspect of environmental communication, completely erasing vital

terms from the vocabulary can be incredibly damaging. Attempting to present the challenge as doable and not too dauting is valid. Discarding the words that truthfully describe these events, however, is not only a false representation of reality, but also a failure to address a pressing, real issue. The language used in these messages influences the public's perception of who or what is responsible for the situation as it is currently, preventing society from addressing it and eventually reaching a solution. Avoiding "climate change" or "environmental justice" to describe the changing climate and how marginalized communities are most affected by environmental threats compares to not describing certain acts and people as "racist" or "sexist," under the "that is too strong of a word" justification. Finding that balance is what participants understandably struggle with.

The present study supports Breitmeier and Ritterberger's (2000) assertion about the role of ENGOs. Such organizations are expected to convey information in an easily digestible way, that does not detract from critically important issues contained in the message. These institutions are one of the few still considered to be ethical and competent by the same public that hardly trusts journalists (Brewer & Ley, 2013; Edelman Trust Barometer, 2020), putting them in a position of enormous responsibility of being "the middleman" almost on their own. The findings of this study indicate the existence of four main strategies? in the process of communicating about the environment between four actors in play: the public (P), the scientists (S), the content creators (C.C.), and communication scholarship (C.S.).

In support of previous research, the present study suggests that scientists work at the edge of two gaps: the first between themselves and the public, and the second between them and the content creators (Hoewe & Ahern, 2017; Tandoc & Takahashi, 2013). Even though the sample consisted entirely of college educated people, some with or working on advanced degrees, their

knowledge on what strategies tend to be more and less successful stems almost exclusively from practice, which suggests that environmental communication, in either country, was not a topic of careful consideration during their academic training. This is also consistent with literature: While environmental communication scholarship has grown significantly into its own field, dedicated to finding the best ways to communicate about the environment and informing content creators on which strategies might work best, the knowledge produced by them remains trapped in the academic bubble failing to reach those who practice it (Besley, 2016; Harris, 2017).

Beyond the barriers to engagement described by Lorenzoni and Whitmarsh's (2007) and Stoll-Kleemann and O'Riordan's (2001) denial mechanisms, the findings in this study suggest more recent impediments, specific to each country's culture and current political climate. The increasing difficulty for dialogue and lack of trust in science and the media reported by participants aligns with the setting described by Brewer and Ley (2013) and Kakutani (2018), and is also supported by recent survey data (Edelman Trust Barometer, 2020; Poushter & Huang, 2019; Wike, 2016). Participants reported struggling with language in the crafting of their messaging. Simple language is one of the guiding principles of effective environmental communication (Barnosky et al., 2016) and, as translators of academic knowledge, such communicators must share with the audience the information in a way that is neither too technical, nor overly simplified (Gustafson & Rice, 2020; Tandoc & Takahashi, 2013). That can be hard to do when describing such wide, complex, and uncertain phenomena such as climate change, for example, especially when dealing with an already distrusting audience. Given that several participants reported avoiding certain terms and having extra care when communicating about the environment with their own communities, that might also shape their messaging

targeted to a wider audience. The challenge lies between sharing enough scientific evidence without the scientific language.

While that may be the guideline suggested by environmental communication scholars, findings indicated that disappointment toward the content is a common feeling shared among the scientists and researchers in the organization, when their findings are shared in a simplistic manner. This disconnect highlights one of the four gaps previously mentioned in this study, between scholarship and practice (Besley, 2016; Harris, 2017). Despite the dissatisfaction reported by participants, their priority remains connecting with the audience, and doing so implies the use of accessible language, in solution-oriented messages that avoid posing any threats to the individual's personal freedoms, as stated by Liang, Kee, and Henderson (2018).

The fact that SPVS produces the YouTube series *Grande Reserva Mata Atlântica* as a central component of its messaging is supported by literature suggesting that visuals are more effective, compared to verbal messages, in drawing the audience's attention and fostering an emotional connection with the subject (Hoewe & Ahern, 2017). Likewise, the fact that images are memorized for longer than text, as it performs the important task of representing more clearly abstract or distant concepts (Harris, 2017; Hespanha & Rice, 2016; Thakadu, Irani & Telg, 2011) could further benefit study participants as they seek to convey environmental messages to the public. The leading role of photography and filmmaking in environmental communication has been established both in academia and by the participants of this study.

The social aspect of the work done by environmental organizations was a topic of high concern for participants in both countries. However, it was not reflected by the literature reviewed for this study. American-based participants greatly expressed their necessity of catering to a more diverse population, with more intersectional messaging, focused on how marginalized

communities are more at risk when it comes to environmental threats. It was impossible for the Brazilian women who participated in this study to explain their daily routine without reporting both life-threatening dangers tied to fieldwork in rural areas, and severe sexism in the meeting rooms in which policy is discussed. The cultural identity of the local communities in which SPVS and GEO act was common and highly present theme in the contributions of both Brazilian and American participants, which is also not widely present in environmental communication literature. The fact that these themes were not reflected in previous work might be due to their interdisciplinary nature. Perceptions of culture, role, purpose, and identity related to one's personal relationship with the environment might be slightly out of the scope covered by studies in persuasion and behavior-change in mass communication. In a field that is still relatively new, scholar that investigate these complex relations can complement and refine the existing guidelines for environmental messaging, making them more specific to different types of audiences, rooted in a deeper understanding of their culture.

Participants of both organizations expressed high levels of concern regarding the reach of their messaging. Especially on social media, they are aware that their content is mostly being consumed by those who follow them; and those who follow them are already somewhat environmentally conscious—or, at least, have enough interest in the cause to follow an ENGO. Breaking out of the echo chamber and getting the message across to the people who think differently is a modern challenge of the digital age. This specific challenge has yet to be addressed in literature in connection to environmental communication, possibly because it is also a newer concept that has not yet been addressed extensively.

Theoretical Implications

Research has suggested that socially desirable environmental messaging is more effective than the "disaster approach" (Hoewe & Ahern, 2017; Liang, Kee, & Henderson, 2018), an affirmation confirmed by participants that report creating messaging focused on solutions and positive news. This practice is consistent with what is predicted by the theory of planned behavior (Azjen, 1991). In doing so, however, participants often feel like they are not representing accurately the condition of the environment. The essential role of environmental communication is to alert society about a given issue, amplify the message, and engage them in action (Cox & Pezzullo, 2018). For true civic engagement, the public must be convinced of the issue's urgency (Uusi-Rauva & Heikkurinen, 2013), but, as stated by Participant US-2, accurately communicating the urgency would be simply communicating the full truth—which might not be welcomed by the audience given the seriousness of the environmental crisis in place.

Other participants alike expressed struggling with balancing their moral obligation to transparent and honest communication and creating content that will not scare the audience away. Lorenzoni and Whitmarsh (2007) have listed individual helplessness as one of the "individual barriers to engagement" (p. 451), and, in the participants' perspective, the whole truth would become an obstacle to pro-environmental behavior, impeding social behavior change by lowering the public's notions of self-efficacy (Ajzen, 1991; Bandura, 1989). In TPB, low levels of self-efficacy are fatal. Without a positive perception of behavioral control, one of the three key factors that precede intention, the other two determinants, attitude toward behavior and subjective norm, cannot occur. Even if the individual believes a pro-environmental behavior, such as reducing their consumption of red meat, for example, is a positive change (attitude

toward behavior), that will be respected among their community (subjective norm), a new diet won't become a reality without the belief they can, in fact, live their lives without red meat.

Limitations of Work

As with countless other studies conducted in 2020 and 2021, the COVID-19 pandemic forced the data collection to be fully online. The original context of the proposed thesis involved participant observation and in-person interviews, and was adapted to digital interviews and a qualitative analysis of the ENGOs social media content. If the experience of participant observation were possible, the data set would unquestionably be more comprehensive and complete. Both SPVS and GEO have also, for the past year, been working remotely, putting on pause all of their traditional events and activities. This also limited the possibilities of observing the participants in action in a normal setting, being in close contact with the communities they work with.

Having participated in the ENGOs routines and spent quality time with the participants would have enriched the dataset greatly. Observing the process of crafting the messages and the in-person relationship the participants have with the communities they work with is a key element that can be explored in future studies, once in-person interactions are safe. Beyond that, a wider sample of documents, complementing Twitter and Facebook posts, could have benefited this study. A closer analysis of GEO and SPVS's audiovisual content, newsletters, websites, and campaigns would further illustrate the strategies described by participants in the interviews.

Future studies that apply the theory of planned behavior to environmental communication could further explore the barriers specific to the "perceived behavioral control" determinant of intention. Scholars could also investigate the role culture and identity play in one's relationship with the environment, and how communication can work with it to incite pro-environmental

behavior. Also, the study of environmental interpersonal communication can be extremely valuable in understanding how individuals process these messages, and how can we, as professionals, use our expertise to create sustainable social change.

Chapter VII

Conclusion

Both organizations have been successful in promoting pro-environmental behavior by relying heavily on the public sentiment of belonging. SPVS and GEO cover similar geographical areas, with their projects happening mostly within their states, many of which connected to rural communities. Brazilian participants higher levels of negativity toward President Bolsonaro compared to Americans' milder statements on President Trump might be reflective of the Presidents' themselves, the cultural and historical attachment to environmentalism, and the distinct political systems of both countries, since states in the U.S. are more autonomous than in Brazil. Despite these differences, participants from both nations agreed in stating that they had to be more careful with communicating about the environment since the elections. Avoiding certain terms, words, and subjects became a standard practice for many of them, since expressions such as "climate change" have become so politicized. Brazilian and American participants expressed the importance of engaging the public on an emotional level, by making the message about taking care of their home, their identity as a community, as opposed to placing in their hands the responsibility for the global climate crisis. They do so by creating content focused on how valuable their local natural resources are, how powerful the community is in taking care of it, and all the potential of growth for the region that lies in that power.

While so much of environmental and science communication scholarship is focused on social media strategies and mass communication, perhaps more attention should be paid to the

personal interactions environmentalists have with their audience on a more intimate scale. Understanding connection between nature, culture, identity, and community can greatly inform the process of social behavior change through communication. Being sensible to the effects a transition to greener practices might have on traditional communities is crucial. Just as pressing as improving their mass communication strategies, ENGOs must understand the meaning attached to what they propose these communities do. The first and most essential step in the shift to a more environmentally conscious future is not political or technological; it is cultural. It is the responsibility of the leaders of this movement to secure its next steps are inclusive and accessible, and mindful environmental communication is a key element in doing so.

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Appendices

Appendix A

Interview Protocol – Employees

1 Tell me a little about yourself.

a. How did you first get involved with environmentalism?

b. How did you get involved with the SPVS?

2 How do you perceive the impact of other environmental organizations?

a. Would you describe it as meaningful? Why? Can you give me an example?

b. Are there any organizations that you, as a group, follow as a role model?

3 How would you describe your role at SPVS?

a. What are your responsibilities?

4 Tell me about a typical day for you.

a. What kind of work do you do on a daily basis?

b. How does your work affect your perception of environmentalism?

5 What does being involved in an organization like SPVS mean to you?

6 Can you describe the cause you're defending for me?

a. How does your work contribute to that cause?

b. Do you perceive your work to be enough?

c. What do you think your colleagues 'opinion is?

7 How do you perceive your influence on those who surround you?

8 What is SPVS doing to recruit new members?

9 What are you doing to recruit new members?

10 Do you perceive SPVS's communication strategy to be effective?

a. What aspects of it do you consider effective?

b. What would you do differently?

11 What guides your strategy for communicating about environmental issues?

12 What resources SPVS needs the most?

13 What are you doing to get more people involved with the cause in general?

14 What is the best thing about SPVS?

15 What is the worst thing about SPVS?

16 Can you share some examples of actions that led to concrete consequences you did?

17 How would you describe the impact SPVS has? (Locally, regionally and globally)

18 Could you list what do you feel SPVS should do in the future?

19 Is there anything I didn't bring up?

20 How old are you?

21 How long have you been working with SPVS?

22 What is your educational background?

Appendix B

Interview Protocol – Administrators (Board Members/Directors/Coordinators)

1 Tell me a little about yourself.

a. How did you first get involved with environmentalism?

b. How did you get involved with the SPVS?

2 How do you perceive the impact of other environmental organizations?

a. Would you describe it as meaningful? Why? Can you give me an example?

b. Are there any organizations that you, as a group, follow as a role model?

3 How is SPVS organized?

a. How many members do you have currently?

b. Do you find that to be enough?

c. What kind of activities do you do as an organization?

4 How would you describe your role at SPVS?

a. What are your responsibilities?

5 Tell me about a typical day for you.

b. What kind of work do you do on a daily basis?

b. How does your work affect your perception of environmentalism?

6 What does being involved in an organization like SPVS mean to you?

7 Can you describe the cause you're defending for me?

a. How does your work contribute to that cause?

b. Do you perceive your work to be enough?

8 What do you think your colleagues 'opinion is?

9 How do you perceive your influence on those who surround you?

10 What is SPVS doing to recruit new members?

11 What are you doing to recruit new members?

12 Do you perceive SPVS's communication strategy to be effective?

a. What aspects of it do you consider effective?

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13 What guides your strategy for communicating about environmental issues?

14 What resources SPVS needs the most?

15 What are you doing to get more people involved with the cause in general?

16 What is the best thing about SPVS?

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18 Can you share some examples of actions that led to concrete consequences you did?

19 How would you describe the impact SPVS has? (Locally, regionally and globally)

20 Could you list what do you feel SPVS should do in the future?

21 Is there anything I didn't bring up?

22 How old are you?

23 How long have you been working with SPVS?

24 What is your educational background?

Table 1

Sociedade de Pesquisa em Vida Selvagem (SPVS) Study Participants

Participant	Age	Job at ENGO	Time at ENGO	Education
BR-1	59	Founder/Director	36 years	Specialization
BR-2	44	Coordinator	8 years	PhD (Current)
BR-3	35	Employee	12 years	PhD (Current)
BR-4	61	Coordinator	34 years	M.S.
BR-5	30	Employee	3 years	Specialization
BR-6	29	Employee	5 years	B.S.
BR-7	44	Coordinator	21 years	M.S. (Current)
BR-8	40	Employee	9 years	M.S.
BR-9	36	Employee	1.5 years	PhD
BR-10	31	Employee	8 years	B.S.

Table 2

Green Energy Ohio (GEO) Study Participants

Participant	Age	Job at ENGO	Time at ENGO	Education
US-1	66	Board Member	3 years	B.S.
US-2	24	Employee	2 years	B.S.
US-3	72	Director	4 years	M.S.
US-4	27	Employee	2 years	M.S.
US-5	21	Intern	8 months	B.S. (Current)
US-6	61	Board President	14 years	B.S.
US-7	38	Board VP	10 years	M.S.