Rhetorical Storytelling in Climate Change Denial Videos on YouTube

How do climate deniers try to persuade viewers that earth is not warming?

Student Name: Michael Reißner
Student Number: 667427

Supervisor: Dr. Olivier Nyirubugara

Master Media Studies - Media, Culture & Society
Erasmus School of History, Culture and Communication
Erasmus University Rotterdam

Master's Thesis
June 2025

Word Count: 16081

RHETORICAL STORYTELLING IN CLIMATE CHANGE VIDEOS ON YOUTUBE

ABSTRACT

In recent years, YouTube became an important platform in shaping the public understanding of climate change. While previous research has addressed misinformation and public opinion, there has been a gap on how climate-sceptical creators on YouTube use rhetorical tools within audiovisual storytelling. This study investigates how persuasive strategies are applied in climate change-sceptical content on YouTube, for which a rhetorical analysis is applied.

To examine this, a qualitative multimodal discourse analysis was conducted, deriving from the rhetorical appeals of ethos, pathos and logos. Additionally, an inductive category focusing on viewer engagement was developed. The analysis is based on 36 videos from four YouTube channels: Steven Crowder, John Stossel, PragerU and Heartland Institute. These were selected through purposive sampling and were analysed using a hybrid deductive-inductive coding approach in Atlas.ti. Hereby, all multimodal modes were considered.

The findings show that ethos was the most frequently used appeal. Creators establish credibility through critical tone, the use of professional visuals and scepticism towards media and institutions. Hereby, the type of credibility differs depending on the content style. While conversation-style creators appeal to the audience through shared values such as economic concern and national identity, solo style creators tend to use structured visuals and formal delivery to create authority. This demonstrates how credibility is strategically adapted to different audiences and formats.

Within the category of pathos, humour and satire were found to be dominant tools, particularly within Steven Crowder's content. Editing techniques such as reaction cuts and dramatic effects were used to amplify the emotional appeal and increase the entertainment value of the message. The analysis of logos showed that rational argumentation was often simulated rather than applied in a scientific way. Instead of offering robust evidence, creators frequently relied on simplified data, inserted news clips or visual props to appear rational. The rhetoric of critical thinking was frequently used to question climate policies or expert consensus, not to foster understanding but to create doubt.

A final finding is the use of viewer engagement as a rhetorical technique. Statements like "do your own research" or requests for support are used to activate the viewer and increase loyalty. This reflects a shift from persuasion as argument to persuasion as participation. Altogether, these findings add significant research insights on how climate-sceptical creators use rhetorical storytelling to make their narratives persuasive. Rather than denying climate change outright, the content analysed in this study uses precisely chosen logic, tailored credibility and emotional resonance to challenge mainstream narratives and maintaining public doubt.

KEYWORDS: Climate scepticism, Rhetoric, YouTube, Persuasive Storytelling, Multimodality

Table of contents

1. Introduction

"YouTube is potentially making up to $13.4 million a year in ad revenue from channels studied by this report that have posted climate denial content", states a recent publication by the Center for Countering Digital Hate Inc (2024, p. 27), that has analyzed YouTube channels from the year 2018 up until the year 2023. Overall, the report indicates that there is an continuous shift taking place, from a previous climate change denial, that neglects climate change itself, towards a new climate change denial, which claims that certain initiatives are not working or that global warming might be beneficial for our economy (Center for Countering Digital Hate Inc, 2024, p. 2). As it was already displayed in 2020 by a report published by *Aavaz*, videos posted on YouTube that contain climate misinformation are not uploaded and simply lay around passively, they are being actively recommended to the viewers entering the platform (Avaaz, 2020, p. 11). Even for neutral search terms that might not indicate any climate denying intentions, such content is being displayed in a significant percentage. The study found that search terms like "global warming" or "climate change" lead the user to be confronted with 8% to 21% of content that contains climate change misinformation (Avaaz, 2020, p. 11).

A recent example from the Australian federal elections 2025 shows how the most prominent climate change deniers have adjusted their strategy from openly denying global warming towards shifting their focus on articulating critique on the energy transition towards green energy, specifically on pricing and security of the energy source (Noriego, 2025, para. 1). As it was stated by the Brazilian diplomat André Corrêa do Lago, who is the director the UN summit *cop30* in 2025, specific strategies like these are going to become one of the most important issues to tackle globally in order to successfully tackle climate change denial (The Guardian, 2025, para. 2). He specifically stresses the neglection of global warming that is based on own interests, as he notes that "there is a new kind of opposition to climate action. We are facing a discredit of climate policies. . . It's not a scientific denial, it's an economic denial" (The Guardian, 2025, para. 3). Recent efforts from activists underline this importance, as the so-called *Exctinction Rebellion* blocked a highway in The Hague, Netherlands in April 2025, protesting against subsidizing fossil fuels and hindering the transition to renewable energy sources (NL Times, 2025, para. 4).

1.1 Societal relevance

Recent publications have claimed that 2024 has been the first calendar year with an average temperature above 1.5 degrees (Copernicus, 2025, para. 1). It is prognosed that exceeding this limit will have drastic consequences, as the earth is now warming faster than at any previous point in

history, which ultimately poses risks to all life forms on earth (United Nations, 2024, para. 2). This can already be seen at various climate-related events around the globe, like mass floodings in Spain or wildfires in the United States (European Space Agency, 2024, para. 3; Time, 2025, para. 1). These events make clear how climate change is affecting all of society. In order to successfully tackle global warming and its consequences, climate policy is playing an important role in both local and global politics for the world's population. This can be seen at the high media attention US president Donald Trump received, after removing the US once again from the Paris Accord, which aims to keep the emissions of countries below an increase of 1.5 degrees until the year 2100 (BBC, 2025, para. 1). Furthermore, recent adopted resolutions done by of the 47th president of the United States, like freezing major climate programs or removing research funds for climate research, cause further disruption in society and its political landscape (E&E News, 2025, para. 3).

Other examples like a report from the *German Environment Agency* prove, how climate change is dividing society, as climate change policy debates increasingly polarize (Umweltbundesamt, 2023, para. 2). A significant contributor to such polarization is online media. As uncovered by the online magazine *Yale Climate Connections* (2025, para. 1), eight of the ten most consumed online media shows are proven to have spread false or misleading information about climate change. This highlights the already polarized role of media in society, as its wide reach plays a significant part in shaping the public opinion. Another report published by Storani et al. (2025) underlines the crucial role of the media, as the researchers investigated over 20 million social media posts, in which they found a significant amount of content from unreliable sources (p. 6). Specifically, climate change misinformation was heavily present on YouTube, which indicates the significant widespread reach as well as influence of creators and their neglective content (Storani et al., 2025, p. 5).

1.2 Academic relevance

Climate change information in media plays a significant role in shaping views and opinions on the polarized topic. While it was researchers like Antilla (2005), who analyzed the portrayal of climate change in the media two decades ago, which led to critical statements such as that "articles that framed climate change in terms of debate, controversy, or uncertainty were plentiful" (p. 350), contemporary misinformation has evolved into more strategic and diversified forms on various media platforms. One of this platforms is YouTube. Despite YouTube having become an important source for climate change information, as 92% of its users state to use the platform to gather information and knowledge (Oxford Economics, 2022, p. 19), most literature only focuses on the textual layer of videos uploaded to the platform. As it is important to note that video content has a broad set of layers that transport information, like audio or visuals, scholars like Park et al. (2016) stress the importance of understanding the persuasiveness in the context of such multimedia content (p. 2), to

which this research aims to contribute to. However, despite investigating video content on YouTube and the specific interaction between humans and the computer, Park and colleagues fall short on paying attention to individual strategies of various content creators. This is acknowledged in another study by Yuan and Lu (2022, p. 922). As people use YouTube as scientific information source, their research acknowledges the fact that the audience is confronted with different communicative strategies of various content creators (Yuan & Lu, 2022, p. 922). Ultimately, their research raises the important question of understanding what persuasive strategies are applied within this multimedia content from different creators. While this has not been focused on in the research by Yuan and Lu, it has been investigated in a study by Mall and colleagues (2024), who underline the importance of polarization on YouTube, as they claim that the effect of different themes and framing approaches in videos influence polarization (p. 13). Additionally, Yuan and Lu (2022) also recognize the evolution of different themes and categories of polarization, where they give examples on non-political elements becoming instrumentalized for certain political agendas, such as the politicization of sports caused by a discussion on human rights (p. 14). However, persuasive appeals are not being touched upon in their study.

Similar to Yuan and Lu, research results from scholars like Allgaier (2019) rightfully conclude that climate change opposing content shows a strong presence in the online environment, but again falls short on examining the specific rhetoric tools that brought them there in the first place (p. 12). However, his research takes on a more nuanced investigation on strategies developed by creators that oppose global warming. While his study indicates that content creators "that oppose mainstream scientific positions already gained a strong foothold on such channels and seem to have learnt very well how to use them to their advantage" (Allgaier, 2019, p. 12), it does not further investigate on *how* they managed to utilize the platforms specificalities for their own political agenda. Such attempt is made in one of the most recent works that focuses on persuasive strategies used to spread climate change misinformation. This research has been published by De Nadal (2024, p. 1186), who touches upon this issue from the perspective of examining the role of political influencers on YouTube in propagating climate misinformation. This research led to significant outcomes, such as the uncovered shift towards a "post-denial" stance on climate change (De Nadal, 2024, p. 1196). However, like previous studies, the presented research neither focuses on the actual persuasive strategies from the creators, nor does it pay attention to the platform's specific multimedia nature.

As it was made clear, literature has so far significantly overlooked the rhetorical perspective of how creators construct climate misinformation containing content in the contemporary online environment of YouTube. Therefore, this study aims to fill this research gap by focusing on the rhetorical storytelling within climate change denying videos on YouTube. To add up to existing scientific research and fill the identified research gap, this study proposes the following research

question: *What persuasive strategies do climate-change denying content creators on YouTube implement in their videos?*

1.3 Structure of thesis

Overall, the structure of the thesis follows the general approach of qualitative research, and it is specifically designed to investigate rhetorical strategies used within climate change sceptical content on YouTube. Following this introductory section, Chapter 2 introduces the theoretical framework. It covers the classical rhetoric approach, post-truth dynamics, climate scepticism and the communicative role of YouTube. Chapter 3 sketches the research design, including data collection, sampling, and the method of analysis. After describing the analysis, Chapter 4 showcases the results of this study, categorizing the outcomes in the four identified categories that are *Ethos*, *Pathos*, *Logos* and *Viewer Addressing*. To conclude, Chapter 5 analyses the outcome of the analysis, which is followed by a discussion towards social implications and how credibility, emotion, logic and viewer addressing play a crucial role for it. To sum up the research, limitations of the study are outlined and an outlook and a proposal for future research are being given.

2. Theoretical Framework

2.1 Communicating convincingly in the 21st century

2.1.1 Ethos, pathos and logos - how rhetoric works

Understanding how rhetoric works can be of great value in various communicative situations. It is important for the speaker to not only understand what different rhetoric strategies exist, but also when to apply which of them on what situation. The origin of the concept of rhetoric dates back to 4 centuries BC, originally founded by the Greek philosopher Aristotle (Rowland & Kuchel, 2023, p. 12). Although all humans apply rhetorical tools daily, most of it happens unconsciously and very often without direct intention (Rowland & Kuchel, 2023, p. 15). Central to this concept is the three-folded rhetoric situation consisting of the speaker, audience and subject (Rowland & Kuchel, 2023, p. 15). According to Aristotle, his framework of rhetoric consists of three main concepts in relation to the speaker, being *ethos*, *pathos* and *logos* (Wróbel, 2015, p. 409). Persuasion is achieved in the best way possible as stated by Aristotle, when the speaker's personal character is in harmony with the speech or information that is being articulated (Wróbel, 2015, p. 409) To employ effective and persuasive communication, usually all three appeals are used, while certain might be emphasized more than others, depending on the audience, topic, situation, and the goal of communication (Rowland & Kuchel, 2023, p. 15).

In his work, Aristotle describes *ethos* as the moral character of the speaker, which appears to be the strongest form of creating proof within speech (Aristotle, 1926, p. 17). Hence, *ethos* describes the credibility of the speaker, which appears to be a big challenge in modern communication, as societies continue to grow and become more and more fragmented, since social media provides the listener with an almost endless amount of a diversity of speakers (Rowland & Kuchel, 2023 , p. 16). Caused by the vast amount of public voices and the rise of the denialism, even scientists that are experts in their field have trouble to establish credibility (Rowland & Kuchel, 2023, p. 16). This ultimately creates the problem of certified scientists losing their voice to often very polarized, less scientific-based communicators.

Pathos, the second proof of speech as mentioned by Aristotle, focuses on "putting the hearer into a certain frame of mind" (Aristotle, 1926, p. 17). This means that focusing on emotion is very important, as humans don't perceive or interpret information in the same way when being in different emotional states, like being relaxed or angry, making it very important to pay attention to and influence the emotions of the audience (Rowland & Kuchel, 2023, p. 15). This can be achieved with various tools, such as telling personal stories, using expressive descriptions or even changing the tone and pronunciation of speech (Rowland & Kuchel, 2023, p. 15). Hereby, the speaker aims to

evoke some sort of emotional response from the audience (Pelclová & Lu, 2018, p. 45).

Lastly, *logos* is the concept of the speech having proof or creating proof through logical reasoning (Aristotle, 1926, p. 17). In practical terms, this means to transport the own view appealing to the rational thinking of the audience, which is achieved by using arguments which are backed up with evidence (Rowland & Kuchel, 2023, p. 15). It is important to note that while logos is crucial within science communication, a “logos-only communication event is unlikely to win over an audience” (Rowland & Kuchel, 2023, p. 15). This is because the human body is not fully rational and before any other rhetorical situation, it responds to emotions first, which means that emotions should be used to raise attention and connect with the listeners (Rowland & Kuchel, 2023, p. 15).

In summary, these three appeals – *ethos*, *pathos* and *logos* – lay the foundation for effective usage of rhetorics in communication. While there are more fundamentals to rhetorics, most of the time they appear to be an extension from or based on the three appeals and describe certain aspects more granular. As for the theoretical framework of this research, the main focus lies on the three appeals, as they serve as the foundation of persuasive communication, which will be explained in the following.

2.1.2 Persuading effectively in the post-truth era

To understand how persuasion works in the era of post-truth, one first needs to understand the relationship between persuasion and rhetorics. As Burke (1969) argues, “wherever there is persuasion, there is rhetoric. And wherever there is "meaning," there is "persuasion" (p. 172). So according to him, persuasion postulates the existence or the use of rhetoric. Moreover, following Aristotle, rhetoric does not only go along with persuasion, but it helps to “discover the means of persuasion in reference to any given subject” (Aristotle, 1926, p. 15). By looking at persuasive strategies from an angle of the fundamentals of rhetoric, it will help to uncover the persuasive intention, which ultimately, depends on and is influenced by the nature of the audience, the situation of the communication, as well as the social and moral norms in place of society (Halmari & Virtanen, 2005, p. 3; Pelclová & Lu, 2018, p. 45). Hence, the three concepts of persuasion, being *ethos*, *pathos* and *logos*, create three ways of how persuasive language is linked with the speaker, audience, and subject (Pelclová & Lu, 2018, p. 45).

When applying this framework to YouTube, which is one of the biggest social media platforms of the digital era, new dynamics that rely on the traditional concept of rhetoric and persuasion can be identified. Here, content creators try to develop a personal style with a distinct appearance, fostering audience cultivation and ultimately, ending in the viewers developing a para-social relationship with the creator and vice versa (Munger, 2024, p. 45). In order to develop such para-social relationship, Munger (2024) names three main dimensions that enable credibility for such bond: reliability,

authenticity and accountability (p. 45). Reliability means that the creator has a similar appearance to the audience, often explaining political issues in similar terms (Munger, 2024, p. 45). Authenticity stresses the usage of the own subjectivity of the creator, where they underline the discussed topics with their own opinion and emotional narrative (Munger, 2024, p. 45). Lastly, accountability means to pay attention to the users feedback and providing a constant output of content (Munger, 2024, p. 46). Here, links can be drawn between the three rhetorical appeals as introduced by Aristotle (1926, p. 17), as such approaches to create credibility appeal to the emotions, moral and logical reasoning of the listener.

Especially in regards to the multimodality of the platform, which allows for also leveraging the visual or auditive layer apart from simply the textual layer, creators might face a broad toolset of implementing their narrative. As pointed out by Theocharis and colleagues (2023), the platforms specific affordances allow for the development of intimate relationships with the audiences, sharing fringe ideas or conspiracy, all supported by the visual aspect of video-sharing (p. 3417). Overall, this means that content producers are facing low barriers for their content production, while consumers can easily find new content through search or recommendation engines (Hosseinmardi et al., 2021, p. 6). Ultimately, this leads to highly engaged audiences with a low production cost, who can be hooked easily to their content by proving their credibility (Hosseinmardi et al., 2021, p. 6; Theocharis et al., 2023, p. 3418).

While the platforms affordances make it very easy to create content in the digital era, attempts of speakers trying to persuade their audience don't come without obstacles. As identified by O'Keefe (2019), there are typically four types of situations persuaders face when trying to convince their audience (p. 320):

(1) The audience doesn't think it's a good idea

(2) The audience perceives social considerations as barrier

(3) The audience's perceived ability to perform the advocated behaviour is a hurdle

(4) The audience is not translating good intentions into action

In regards to the first challenge, which focuses on influencing the attitudes of the audience, persuaders face the challenge that no positives attitudes towards the communicated action or view exist (O'Keefe, 2019, p. 320). This can be approached by the classic approach of attitude change, consisting of the presentation of a message, its processing and ideally, moving the attitude of the recipient in the desired direction (Crano & Prislin, 2006, p. 348). To achieve this, O'Keefe (2019, p. 320) states that persuaders try to give good reasons to why the proposed message should be taken positively, hereby often focusing on the consequences. This is because consequences that appear to be desirable for the audience tend to have an increase in support (O'Keefe, 2019, p. 320). As stated previously, this follows the claim by Pelclová and Lu (2018, p. 45), who stress the necessity to adapt

to the audience the persuader is facing or to tailor the persuasive strategies to them. When receiving counterarguments, O'Keefe (2019, p. 320) proposes to best counter them by presenting arguments supporting the speakers claims, as this appears to be more effective than simply ignoring them or even worse, simply picking them up while not presenting any counterarguments (p. 322).

But even if attitudes are successfully convinced, social considerations of the audience appear to still hinder the persuasive act of the speaker, as people might still care what others think or do (O'Keefe, 2019, p. 320). To overcome this barrier, O'Keefe (2019) suggests to inform the audience what others are doing or thinking, ideally being the desired action or viewpoint the speaker tries to bring across (p. 320). As studies on voting behaviours have proven, people who see on social media sites like Facebook that their friends are voting, are being influenced to also vote (Bond et al., 2012, p. 295). This example shows that online messages are very much able to influence a variety of offline behaviours, which is why it's important to understand the role of online social media in society (Bond et al., 2012, p. 298).

The third type of challenging situation as defined by O'Keefe (2019, p. 320) appears when, despite having successfully influenced the attitude and social perception of the audience, their perceived ability to perform the communicated behaviour is too low. This means that no intention in performing the action is present. This barrier can either be tackled by providing more input if its caused by lack of information, providing a positive rehearsal of previous performances of the action by the speaker, providing examples of other people performing the behaviour or simply encouraging the audience (O'Keefe, 2019, p. 320). The likeliness of successfully achieving influence on the behavioural ability is also higher, if the action has been performed previously in the past, as for example a study on weight loss has uncovered (Parkinson et al., 2017, p. 415). This also has an impact on the self-efficacy level, as having successfully overcome similar activities in the past will most likely increase such self-efficacy levels (Parkinson et al., 2017, p. 415).

Lastly, even if the previous hurdles have been managed successfully, the audience might still have troubles in translating the achieved intentions into practice. To help converting thoughts into action, O'Keefe (2019, p. 327) provides three recommendations. The first one is to communicate simple and straightforward prompts to the listeners, which can positively affect persuasion in the right moments (O'Keefe, 2019, p. 327). The effectiveness of providing an instruction to perform a certain action depends on the situation in which a persuasion is trying to be achieved, as for example in advertising, such attempt of persuading will unlikely bring the desired outcome (Fennis et al., 2011, p. 302). Second, explicitly planning the desired behaviour or performance, called "implementation intentions", can also help to perform the action (O'Keefe, 2019, p. 327). As studies have proven, such implementation intentions heavily rely on the respondents ability to mentally imagine the proposed action (Fennis et al., 2011, p. 309). In their research, Fennis and colleagues (2011) uncovered that by

using vivid and concrete language, mental imaginary can be increased, which leads to an increase in the effectiveness of their persuasive action (p. 309). And lastly, triggering the feeling of guilt can be a powerful motivator as well, as feeling guilty might be the needed push for certain members of the audience (O'Keefe, 2019, p. 327). As uncovered in a study by Peng and colleagues (2023), guilt can be especially efficient when targeting a social responsibility, which happened to be a stronger factor than trying to appeal to personal or individual guilt (p. 16). In addition, appealing to guilt is especially effective in context of education and environmental advocacy (Peng et al., 2023, p. 16). Out of all different inputs on how guilt was used, text-based guilt appeals to have shown the strongest effects, as such guilt-evoking message could be inspected closely first. (Peng et al., 2023, p. 16). Especially these proposed persuasive tricks rely heavily on the concept of *pathos*, as they all approach the listener on the emotional channel.

When trying to convince the audience with various forms of persuasion, it is important to pay attention to the purpose of the communication, as it can be used with good or bad intention (Rapp, 2010, para. 8.1). Aristotle himself acknowledges that there is a risk of rhetorical strategies being misused, although he argues that such exploitative strategies are compensated by the benefits that can be achieved with the rhetoric of the Aristotelian style (Rapp, 2010, para. 8.1). One contemporary field of negative application of persuasive strategies is the era of post-truth. According to Bufacchi (2020, para. 5), post truth changes the idea of truth, compared to a lie, which only tries to change one specific truth. Hence, the concept of post truth expresses the complex relationship between reality, false information and power in the modern world within media and online networks (Giusti & Piras, 2020, p. 5). Search engine optimization, instant availability of content and recommendations on social media have instrumentalized information to be a persuasive tool (Foster, 2023, p. 2010). Giusti and Piras (2020) see this as a political phase, where emotions and beliefs have a higher influence than facts on decisions such as voting, essentially leading to a favour of ideology over economic evaluation (p. 5). As explained previously, such strategies work well, as they target the emotional channel – the *pathos* – of the listener (O'Keefe, 2019, p. 320). Hereby, false oppositions are created, re- and decontextualized, with the intention of persuading others of one's own beliefs and intentions (Foster, 2023, p. 2011).

Examples like a popular climate change story of 2016, with 550.000 engagements on Facebook, that turned out to be based on a debunked survey from 1990 (Readfearn, 2016, para. 2), showcases the impact of instrumentalized post truth in persuasion techniques in the climate change debate on social media. But not only within the content itself, but also in other fields of the platforms specific multimodality, for example in comments on videos on social media. In the same year of 2016, YouTube reported a heavy presence of fake Russian bot accounts, which influenced the presidential election in the US through spreading false political information (Cosentino, 2020, p. 52). Such

activities on a political level show how impactful directly targeted disinformation and manipulation tactics can be, especially in such aggressive execution (Cosentino, 2020, p. 53). Generally speaking, studies have indicated that the amount of misinformation on climate change, stating that humans are causing the global temperature to rise due to increased greenhouse gas emissions, grew proportionately to the strength of the scientific evidence, (Lewandowsky et al., 2017, p. 356). Speaking of the broader public, this led to climate change neglecting opinions arriving in the mainstream many years ago (Lewandowsky et al., 2017, p. 356).

2.2 From climate denial to climate scepticism

The concept of denial or the act of denying something is being used with various meanings, which necessitates the need of further clarification, primarily between a scientific and a vernacular application of the term (Trunnell & Holt, 1974, p. 783). As stated by Moore and Fine (1968), the scientific use of the term, primarily in psychoanalytic fields, is described as a mechanism of defence, where the ego of a person tries to avoid to become aware of painful aspects of reality. Contrary, a person that expresses denial in a vernacular sense, does not use the term as defence mechanism, but rather neglecting something not to be true when it actually is (Trunnell & Holt, 1974, p. 776). In regards to the denial of climate change, the concept of denial can be generally linked to a vernacular application, as such view neglects the scientifically proven truth of an increase in the global surface temperature due to an increase of human-made greenhouse emissions (IPCC, 2023, p. 42). However, paying attention to the scientific application of the term is equally important. This is because it implies the intentional neglection of an event or confirmed facts, which can be linked with the denial of climate change due to own interests, such as of economic or political nature. For example, if politicians aim to maintain fossil fuel energy by creating laws and potentially even increase subsidizing such energy sources, as they get donations from leading companies of that industry (Van Rensburg, 2015, p. 2).

In contrast to denial, which describes the act of neglecting the truth, the concept of scepticism means to “doubt that one can know certain facts” (Coliva & Pritchard, 2022, p. 13). This leads to the application of a motivated agnosticism of the general knowledge of society, which is backed up by specifically selected arguments (Coliva & Pritchard, 2022, p. 14). Hence, being sceptic about something means to only doubt – and not fully neglect – that something is actually true (Cambridge Dictionary, n.d., para. 1). So, scepticism therefore expresses a less extreme and informed, evidence-based neglection of facts and creates the feeling of uncertainty about what one’s competency of knowledge might actually cover (Coliva & Pritchard, 2022, p. 14).

The difference between these two concepts is visible in the development of the contemporary public debate around human-caused climate change. While the scientific consensus on

human caused climate change was around 90% in 2007, it reached a general acceptance of greater than 99% in 2022 (IPCC, 2008, p. 27; Lynas et al., 2020, p. 1). This evolution of jointly reaching an almost 100% agreement that the human species is causing climate change, including both opposing and agreeing views, can be linked with a trend of changing narratives being implemented by climate change opposing figures in their storytelling. As it will be illustrated in the following, various scholars have pointed out that an outright denial of human caused climate change is disappearing in the public debate, while new forms of scepticism are appearing to be the leading narrative amongst climate change opposing parties.

Having analysed think thanks of conservative parties both within the American and German political landscape, Busch and Judick (2021) discovered that the outright denial of climate change has drastically decreased since its origin in the 1990s (p. 17). Instead, the general strategy within political debates has shifted towards creating doubt around institutions and their actions trying to counter climate change, such as the IPCC (Busch & Judick, 2021, p. 17). In their study, researchers Busch and Judick (2021) also showcase how organized climate change denial became as a social movement and that dominant counterclaims have not changed much in total, as they differ only in nuances but have the same message substantially (p. 17). As previously introduced, this approach matches the general concept of scepticism, as the political parties don't neglect climate change itself, but rather doubt the credibility and competence of climate change countering initiatives (Busch & Judick, 2021, p. 7; Coliva & Pritchard, 2022, p. 14). A similar trend has been spotted by Whitmarsh (2011), who confirms a significantly higher portion of the public expressing a degree of uncertainty and doubt around climate change, compared to outright denial, which appeared to be only around 10-20% at the date of publication (p. 697). A core finding here is that scepticism can be interpreted as a mechanism of denial (Whitmarsh, 2011, p. 698). This means that in order to be taken serious in public discourse, the general narrative has adapted from outright denial to developing certain a form of scepticism. Hereby, the study uncovered that beliefs, that claim that climate change is not happening in a form as agreed on by scientists, have strongly increased which ultimately, might reflect an increased misalignment of alarmist media that has little experience in actual climate change (Whitmarsh, 2011, p. 698).

In regards to climate change scepticism, researchers like Van Rensburg (2015, p. 1) analyse the broad range different forms scepticism can take. When paying attention to various characters of scepticism, his work describes different motivations and modes to affiliate peoples sceptical views on climate change (Van Rensburg, 2015, p. 7). For example, it is argued that people can take sceptical views in order to follow their material, ideological or personal interests (Van Rensburg, 2015, p. 7). Additionally, it provides another angle by differentiating between objects of scepticism, being evidence scepticism (critiquing lack of evidence), process scepticism (critiquing mainstream climate

science processes) and response scepticism (critiquing personal or social relevance of climate change) (Van Rensburg, 2015, p. 8). Furthermore, the article states that labelling opposing views bluntly as denial can be problematic, as there is a high chance that sceptics perceive it as divisive, which would then eventually hinder further meaningful debates, as denialists feel attacked and loose interest in debating (Van Rensburg, 2015, p. 9). Hence, Van Rensburg (2015) proposes to use degrees of scepticism, such as "Undecided", "Doubt" or more extremely, "Dismiss", to categorize opposing views, rather than generalizing them as blunt denial (p. 9).

Building up on Van Rensburg's classification of climate change scepticism, further studies developed various angles from which climate change scepticism can be categorized. As result of their study, Van Rensburg and Head (2017, p. 5) propose 6 concepts to which an argumentative approach of climate change scepticism can be assigned to:

(1) "Fact": Indicating perceived factual or logical inconsistencies
(2) "Tell": Indicating that crucial information is being withheld from the public
(3) "Truth": Indicating a perceived thematic thread
(4) "Scare": Indicating an overdramatised image of a fearful climate change
(5) "Greens": Indicating a perceived left-extremist thought behind actions
(6) "Stop": Indicating that proposed measured would not stop climate change

By understanding the main concerns raised by climate change sceptics through such classification, their research stresses the need to make use of such concepts to successfully enter dialog with sceptics, as progress will only be achieved by entering an equal debate on eye level and not voiding direct engagement with such claims (Van Rensburg & Head, 2017, p. 8). To achieve this, their research proposes 5 guidelines on dealing with being challenged with sceptical attitudes towards climate change, which consist of accepting debate, anticipating and pre-empting debate, acknowledging uncertainties in science, correcting any overstatements and ultimately, maintaining a respectful tone during conversation (Van Rensburg & Head, 2017, p. 9)

Another categorization attempt is made by Petersen et al. (2019), leading to the development of the concept that they call "ideological denialism" (p. 117), which resulted from identifying various forms of climate change denial, being literal denial, neo-scepticism, techno optimism, individualism, market fundamentalism and green growthism. What differentiates this work from the outcomes of the work of Van Rensburg and Head (2017, p. 8), is that scepticism, here mentioned as neo-scepticism, is treated as part of denial – and not something different. As Petersen and colleagues argue, its said that "new forms of denial apply even to those who agree that climate change is occurring" (2019, p. 118). Despite using the controversial terminology of "denialism", which can be problematic to foster scientific conversations in this subject as shown by Van Rensburg and Head

(2017, p. 9), the concept of ideological denialism as developed by Petersen et al. (2019) appears to partially show similarities to a strong form of scepticism (p. 118). As described, ideological denialism can also be present among beliefs that acknowledge human caused climate change, similar to scepticism. However, as these approaches implicitly or explicitly deny root causes of climate change, which further leads to counteracting effective action, they are seen as ideological denialism (Petersen et al., 2019, p. 118). The concept of ideological denialism most notably states that narratives claim that the underlying social drivers are being misdiagnosed, effective actions potentially reducing these social drivers should be limited and most importantly, that the current social order should be maintained rather than challenged (Petersen et al., 2019, p. 120). Ultimately, trying to keep the present social order is one of the driving forces behind climate change.

A common finding mentioned in the previous studies is that such narratives, whether labelled as a subcategory of scepticism or ideological denial, have a mistrust in institutions and governments (Petersen et al., 2019, p. 118; Van Rensburg & Head, 2017, p. 8). Research has shown that such thoughts are among the leading factors that prove a relationship between climate change scepticism and the ideological ideas of (right-wing) populism (Huber et al., 2022, p. 1115; Yan et al., 2022, p. 1420). This is because populists usually have a negative attitude towards science and political institutions, which therefore leads them to be sceptical of climate change (Huber et al., 2022, p. 1116). Additionally, research has shown that supporters of opponents of populist parties also have different habits of media consumption (Yan et al., 2022, p. 1420).

In their review on understanding and addressing climate scepticism, Hornsey and Lewandowsky (2022) see this political connectedness, which they describe as political followership, as well as motivated reasoning (ideological shaping of climate science) and infrastructures of disinformation (lobbying to support climate scepticism), as reasons to the presence of climate change misinformation (p. 1455). In regards to political followership, they claim that by being part of the political debate, the discussion around climate scepticism is affected by a "self-reinforcing feedback loop of political polarization" (Hornsey & Lewandowsky, 2022, p. 1455). Such feedback loop is then further accelerated through social media platforms, as this is where politicians often post their official political statements, which then can rapidly become an instrument for polarization, both for supporting and opposing parties (Anderson & Robinson, 2024, p. 32). Apart from political beliefs, own personal beliefs appear to be another driver of expressing climate sceptical views. Statements might be more related to expressing ones own identity, rather than a well informed standpoint, leading to facts becoming blurred and subjective (Hornsey & Lewandowsky, 2022, 1456). This means that instead of asking "Why do people reject climate science?", the relevant question will become "Why would people want to reject climate science?" (Hornsey & Lewandowsky, 2022, p. 1455). Drawing from previously mentioned studies, such question of interest and intention can be asked in

various ways. People might reject climate change as they hold incentives of economic or political nature (Van Rensburg, 2015, p. 9), a mistrust in governmental or scientific institutions (Van Rensburg & Head, 2017, p. 8) or try to maintain the current social order (Petersen et al., 2019, p. 120). Lastly, the identified climate scepticism as organized disinformation describes the coordinated lobbying of spreading disinformation on climate change, often by global networks (Hornsey & Lewandowsky, 2022, p. 1457).

In regards to the applied rhetorical strategies within climate misinformation, Cook (2020, p. 66) proposes a categorization of 5 different techniques: fake experts (so-called experts without proven expertise), logical fallacies (assumptions not leading to conclusion), impossible expectations (demanding unrealistic scientific proof), cherry picking (picking out specific information) and conspiracy theories (e.g. suggesting that secret plans are motivation for actions against climate change). When looking at the contemporary scientific landscape, like the research on climate misinformation on YouTube by De Nadal (2024, p. 118), it becomes clear that such rhetorics are of great impact, especially when being exploited by political influencers. As this research has uncovered, political influencers promote misleading narratives on climate change while not fully neglecting it, reflecting the previously introduced findings by other scholars (Busch & Judick, 2021, p. 18; De Nadal, 2024, p. 1188; Van Rensburg, 2015, p. 7). Hereby, De Nadal (2024, p. 1189) underlines the importance of avoiding the term denial as previously stressed by Van Rensburg (2015, p. 7), in order to avoid victimization and making the opposing party feel as they are being cancelled. Additionally, the study confirms the contemporary shift away from neglecting scientific evidence (denial) and towards criticizing specific actions towards countering the effect of climate change, such as policies as implemented by governments (De Nadal, 2024, p. 1199). Finally, the study stresses the close connection of misinformation and the political, populist rhetoric, which ultimately led to the identification of “post-denial” narratives within climate change denying content creators on YouTube (De Nadal, 2024, p. 1199).

It is clear that the time of blunt climate change denialism is over and that climate change opposing parties have adapted to the overwhelming scientific consensus that climate change is indeed caused by humans. Due to this, their communication strategies have also adapted to become more subtle in order to not be flagged too easily as denial. This makes it more difficult but therefore especially more important to get a better understanding of how they put these strategies into practice, as they can be seen as one of the biggest threat to successfully tackling climate change.

2.3 Climate change polarization on Social Media

Polarization is a broad term which not only has various forms, but also differentiates from application to application, depending on various channels or platforms. Generally speaking, it can be

distinguished between two broad forms of polarization, being *political polarization* and *belief* (or *group*) *polarization* (Edenberg & Hannon, 2021, p. 17). *Political polarization* describes the ideological distance between two political beliefs and if present, sees no middle ground or basis between the opposing parties for conversation (Edenberg & Hannon, 2021, p. 18). Studies have proven that different political parties cause an increase in political polarization when sharing fabricated stories or simply spreading misinformation, which reduces possibilities of achieving a common consensus between all participants of the discussion (Anderson & Robinson, 2024, p. 1). This leads to a diversification of polarization and therefore lowers the possibilities of achieving consensus, as the number of opposing parties increases, which then eventually leads to a decline of democratic values, such as tolerance and equality (Anderson & Robinson, 2024, p. 1). On the other hand, *belief* or *group polarization* describes a process when the belief of a person evolves into a more extreme version, which is caused by interacting with other likeminded people (Edenberg and Hannon, 2021, p. 18). This sub-form of polarization is a central aspect of the closely linked concepts of filter-bubbles and echo chambers (Hannon & Ridder, 2021, p. 199). As it was uncovered by Alfano and colleagues (2021, p. 43), the recommender systems of online social media are leading to a radicalisation of the consumer, which allows the linkage of such technologies of the digital era with the concept of belief polarization.

Since the digital sphere of today's society allows for forms of participation that accelerate the spread of hate speech, polarization among the population increases at a steady pace (Pérez-Escolar, 2022, p. 42). It is worth no note that a generally polarization-free online environment is not achievable and more importantly, also not desirable, as free speech and diverse opinions are important to foster equal discussion and they wont have any possibility to exist in such scenario (Mall et al., 2024, p. 14). Ultimately, the goal should be to minimize extreme polarization which is being instrumentalized by persuasive means. For example, as Mall and colleagues (2024) have unpacked in their research, it is important to identify and tackle extreme polarization, such as the politicization of non-political topics like sports, with the intention to use it for persuasion of political interests (p. 14).

Not only within the discipline of politics, but also general discussions around environmental issues, specifically on climate change, have also drastically increased in polarization (Zhou, 2016, p. 788). As Chinn and colleagues (2020) uncovered, both politicization and polarization of climate change increased in US news coverage from between the years 1985 and 2017 (p. 123). While the frequency of the mentioning of political actors within the climate change debate increased, they found an inverted trend of mentioning less and less scientists in the debate, which is a clear indicator for their main finding of the debate becoming significantly politicized (Chinn et al., 2020, p. 123). Furthermore, while science has reached a consensus of 97% that climate change can be linked to human activity in 2016, the 39% percentage gap between the democratic and republican party in the

US election in the same year, believing that dealing with the issue should be top priority, shows how polarized the climate change discourse is became among society (Cook et al., 2013, p. 66; Zhou, 2016, p. 788). On one end of the spectrum, academic institutions like universities have troubles continuing their work influenced by lobbyism, while on the other end, climate sceptical narratives increase, making it harder for scientific evidence to convince the broad public of the existence of climate change (Anderson & Robinson, 2024, p. 1). Hence, the disagreement within the public opinion can be seen as a representation of political and ideological disagreements (Hart & Nisbet, 2012, p. 702).

This divide can be generally linked with affective polarization, which describes the development of negative feelings towards the opposing party, as researchers identified higher levels of hostility of climate change disbelievers compared to believers, hindering further constructive dialogue (Tyagi et al., 2020, p. 1). Findings show that climate change disbelievers seem to have a significantly higher levels of hostility towards climate change believers than the other way around, which hinders effective communication between the parties (Tyagi et al., 2020, p. 6). As shown previously, approaching climate change sceptical groups with an open ear and not falsely labelling as extreme deniers might help to reduce hostility (Van Rensburg, 2015, p. 7). As presented by Tyagi and colleagues (2020, p. 7), understanding such affective polarized dynamics is very important in this domain, due to the broad variety of opinions on this topic, which is visible in the broad spectrum of climate change scepticism (Huber et al., 2022, p. 1115; Petersen et al., p. 117, 2019; Van Rensburg, 2015, p. 7; Van Rensburg & Head, 2017, p. 9).

2.4 YouTube's influence on shaping messages on the platform

2.4.1 Echo Chambers

The concept of echo chambers describes the action of like-minded people interacting mostly amongst themselves, instead of a broader range of people (Mahmoudi et al., 2024, p. 9594). Echo chambers are very present in online social networks, where users experience a sense of group identity being around similar minds, leading to not only reinforcing certain views, but also shifting them to more extreme points (Mahmoudi et al., 2024, p. 9594; Sunstein, 2002, p. 186). In regards to modern technology like algorithms, the display of content in social media is being prioritized, which aligns with preexisting ideas of the user (Putri et al., 2024, p. 2). In addition to automated content recommendations, biases of peoples perception can also lead to insufficient and excessive seeking for information, as individual preferences in gathering information might also reflect different form of scepticism towards other biases (Sharot & Sunstein, 2020, p. 19). This transforms echo chambers into environments, where users opinions or beliefs are strengthened due to repeated interactions with people or sources that share similar tendencies and attitudes (Cinelli et al., 2021, p. 1). This is

important to reconstruct how viewers are being confronted with new information, which is heavily related to disintermediated diffusion of news and content and that has influence on their decisions as well as their behaviour. (Cinelli et al., 2021, p. 1). Therefore, this leads to the conclusion that echo chambers are important drivers of polarization dynamics (Tyagi et al., 2020, p. 6).

Such environments are not limited to a specific topic but can be seen across various fields, with climate change being one of the leading examples (Mahmoudi et al., 2024, p. 9594; Okruszek et al., 2022, p. 10). With the evolution of online media, echo chambers continuously have influenced online discussions around climate change, including text-heavy blogs, social networking sites like X (formerly Twitter) or video platforms like YouTube (Grusauskaite et al., 2024, p. 7054; Pearce et al., 2019, p. 10; Sharman, 2014, p. 168). A recent study on echo chambers in conspiracy theories on YouTube indicated that the term echo chamber should not be applied too generalizing within online media, indicating the presence of certain degrees of echo chambers, ranging from passive consumption and non-critical reception up to actively negotiating and opposing views in videos (Grusauskaite et al., 2024, p. 7054). Here, further research is needed to critically assess the influence and degree of echo chambers in online climate change content on YouTube.

2.4.2 Consuming content on YouTube

Users who visit the platform do so with the intent of consuming audiovisual material, which therefore affects the formed connection on the platform (Theocharis et al., 2023, p. 3418). Such consumption, specifically news consumption on YouTube, is dominated by mainstream and central sources (Hosseinmardi et al., 2021, p. 7). Out of all news recipients, the far-right content consumers represent a relatively small percentage, while the consumption of “anti-woke” content grew steadily to greater numbers than the far-right ones and is correlated with consuming far-right content off the platform (Hosseinmardi et al., 2021, p. 7). As explained previously, users receive recommendations on the platform, contrary to the “news feed” function on Facebook or X (formerly Twitter) (Theocharis et al., 2023, p. 3418). As research by Hosseinmardi and colleagues (2021) uncovered, such recommendations do not lead to the consumptions of far-right content, as these are most often caused by content preferences ranging beyond a single platform (p. 7). This eventually leads content creators to become a microcelebrity within a certain niche, fuelling the interests of specific communities (Theocharis et al., 2023, p. 7). In regards to news sources on YouTube, they can generally be classified as either a main news channel or as an independent channel, led by mostly a single person (Munger, 2024, p. 1). Hereby, independent creators often utilize their personal style and heavy audience engagement to develop para-social relationships with their viewership (Munger, 2024, p. 1).

3. Research Design

As for the research methodology, this study chose a qualitative research method to grasp the issue under investigation. Simply put, qualitative research seeks to understand the creation of diverse meanings by social individuals through their interactions with their world at a specific moment in time and within a specific context (Brennen, 2017, p. 5; Lim, 2024, p. 2; Merriam & Grenier, 2019, p. 4). By doing so, it wants to better understand social realities, while paying attention to processes, meaning patterns as well as structural features (Flick, 2010, p. 7). Hence, the goal of such approach is to interpret the relations which have been identified as meaningful (Kvale & Brinkmann, 2005, p. 267). In regards to media, this research method considers the diverse meanings and different values created within it, aiming to understand the many relationships between media and society (Brennen, 2017, p. 5). This research method was chosen for this study, as the methods focus on understanding the relationships of social actors (being content creators on YouTube who act sceptical towards climate change) and their world (being the social events influencing their narratives or audience members consuming their content) fits the issue under investigation.

As this study was interested in the rhetorical strategies applied in videos on YouTube by climate change sceptical content creators, choosing a qualitative research method helped to investigate this field, as this discipline treats communication as a social and cultural practice (Brennen, 2017, p. 216). Hence, looking at the data from a qualitative perspective, uncovers processes of meaning making within content creation. According to Flick (2010, p. 7), one of the basic assumption of qualitative research is that social reality is understood as the result of meanings and contexts, that are jointly created within the process of social interaction. Since rising global temperatures – driven by human caused climate change – can be seen as such context that shapes social interaction, conducting a qualitative research seems to be the preferred research method, as its detailed observation helps to understand important relationships within the subject of research, such as the influence of the social surrounding of content creators on their content as well as on the way they deliver their messages. This research method is essential, as it allows to focus on the meaning of words (Brennen, 2017, p. 216), through which rhetorical storytelling within video content of climate change can be uncovered.

3.1 Data collection method

Not only are different rhetorical devices used to communicate the content creators interests in their videos, but moreover, various modes are being taken advantage of, such as visuals, music, or speech. As this study acknowledges that these modes make up many ways of creating meaning within video content on climate change on YouTube, a multimodal discourse analysis (MMDA) was

conducted (Gee, 2014, p. 38). Historically speaking, the concept of multimodality emerged from monomodality, as it recognizes that semiotic principles operate across various modes, which for example causes music to have an impact on action, or images impacting emotion (Kress and Leeuwen, 2001, p. 2). Specifically, MMDA acknowledges the specificities or various modes, where social, cultural and historical factors affect their production (Kress & Leeuwen, 2001, p. 2). These specific modes then account for establishing discourses in a text within specific situations (Gee, 2014, p. 38). As this approach assumes that the traditional language (or text) is only one of many ways of creating meaning (Gee, 2014, p. 38), it allows for a fundamental analysis of video content on YouTube, as various modes like music, visuals or speech will be analyzed in a coherent manner, in order to investigate all modes of meaning making. Multimodality therefore allows the integration of various semiotic modes in a discourse (Tannen et al., 2015, p. 12).

Generally it can be said that these multimodal resources create meaning in every sign, level or mode (Kress & Leeuwen, 2001, p. 2). According to Kress and Leeuwen (2001, p. 4), meaning is usually made in four domains, being *discourse* (socially constructed knowledge of some aspect of reality), *design* (realisation of discourses in a given communication situation), *production* (material articulation of the semiotic event) and *distribution* (recording and transmission). Hence, this research will use the framework, consisting of four domains that make up the concept of multimodality, as presented by Kress and Leeuwen (2001, p. 4), to reconstruct the underlying semantic choices in the videos on YouTube. Moreover, all the different modes present in videos will be taken into account, as "all modes deployed in a multimodal object/phenomenon/text contribute to meaning" (Kress & Leeuwen, 2001, p. 28). Therefore, MMDA is the most suitable choice for of analysis for this research, as it pays attention to various modes of videos on YouTube in their social context, which is especially important in hindsight of social events that influence the content and production of videos, such as political influences or personal interests.

3.2 Sampling

The units of measurement for the analysis were videos that include content on climate change, which have been posted on YouTube and that are published by content creators that express some sort of scepticism or denialist intentions towards the issue of global warming. In order to identify the most relevant channels, a two-fold approach was conducted. First, own research was conducted on the platform using keywords like "climate change hysteria", "global warming" or "why climate change is not real", which helped to define a list of potential creators, who all expressed a neglecting attitude towards climate change, global warming or related actions by for example governments or public institutions. Hereby, special attention was paid to their viewer and subscriber count, as these measurements were used to find the creators with the biggest reach. Next to these

factors, the frequency of uploading videos as well as the actuality of the actual content played a significant role, too. Additionally, a screening of the dataset that has been used by the report *The New Climate Denial* (Center for Countering Digital Hate Inc, 2024, p. 42), that observed ad revenue of the biggest climate change denying channels on YouTube, helped to build a more grounded choice of content creators.

Ultimately, videos from 4 climate change sceptical content creators were analyzed. Two creators were chosen who focus on video content where they primarily enter discussions with other people. Two other creators were identified that primarily publish videos of them talking alone. For the podcast-driven style, content from the former comedian *Steven Crowder* with 5.7 million subscribers and the former television moderator *John Stossel* with 1.1 million subscribers were be analyzed (John Stossel, n.d.; Steven Crowder, n.d.). For the solo content, the American media organization *PragerU* with 3.3 million subscribers and the proclaimed scientific institute *Heartland Institute* with 70 thousand subscribers were be investigated (Heartland Institute, n.d.; PragerU, n.d.). While *Heartland Institute* might show a significantly lower subscriber count as compared to the other three channels, their upload frequency, actuality as well as production quality have been decisive factors to why it was chosen as the fourth channel. To identify the most relevant videos of these channels, a purposive sample strategy was used, which had the aim to identify content rich in information, in order to be able to answer the research question (Flick, 2018, p. 7). In this case, this meant that the selected YouTube channels have been searched for general keywords like “climate” or “climate change”, but also for more specific keywords, which have been identified to be especially prominent amongst climate deniers, such as “climate engineering” (Allgaier, 2019, p. 5).

Given the scope of this study, 4-17 videos for each content creator were collected, aiming for an average length of 3-5 minutes. This means that per creator, an average duration of 30 – 50 minutes of video material was gathered. In case a climate change-related video with a length of 10 minutes matches the sampling criteria, 1 video less was used, if all the others are within the range of 3-5 minutes. Once data collection was taking place, this scope might have been altered based on the criterion of saturation, meaning that sampling will be stopped if the inclusion of more videos doesn’t contribute any new information about the mentioned concepts (Saunders et al., 2018, p. 1895). For the actual collecting process, videos from the content creators were downloaded and saved. Afterwards, they were transcribed, which prepared the data for the analysis using the software *Atlas.ti*. Besides text, the videos from all creators were imported into *Atlas.ti* as well, enabling the analysis of not only the visual mode, but all other multimodal layers as well, such as gesture, tonality or frequency of sequences. To conclude, this research does not try to cover a high quantity of videos, but focuses on content with high research relevance, as there is no need for processing of big amount of data due to the sufficient quantitative exploration by other scholars.

3.3 Data Analysis

As it was of interest how video creators use various modes of communication to influence and convince their viewers, this research has conducted a rhetorical analysis (Brennen, 2017, p. 216). Specifically, as this study is interested in the persuasive strategies, which appear to be an integral part of the media text under investigation, which then can be revealed through rhetorical analysis (Brennen, 2017, p. 217). The strength of this data analysis method is that it allows to assess rhetorical concepts and appeals in the dataset, which means that there is a variety of ways to understand how meaning is being created in the videos under investigation (Brennen, 2017, p. 217). Hereby, the study followed a hybrid deductive-inductive approach, which means that an existing set of categories was used to group findings, while insights that did not match these categories were used to create new ones. From a deductive perspective, the theory of Aristotle's three dimensions of persuasion, being *ethos*, *pathos* and *logos*, helped to categorize research findings according to the rhetorical analysis (Brennen, 2017, p. 216). On a practical level, this means that when a communication mode is being used to underline the credibility of the speaker, for example by stressing the expertise by showing a certificate of a university degree, the finding was coded under the category of *ethos*. If for example tonality is used to stress the emotive component by a message, like the content creator talking about a dramatic event in a very compassion-generating tone, the finding was categorized as an act of communication within *pathos*. In regard to *logos*, findings were assigned to this category when specific gestures of the speaker stress the logical coherence of the argumentation, for example by doing gestured with arms or fingers. Furthermore, one additional category that was not part of the traditional rhetorics as presented by Aristotle, was added to the framework. This category was identified as *viewer addressing*, representing an additional mode of persuasion in the digital era, specifically present on the platform YouTube. This category was created as certain findings were not able to be matched with the three deductive categories. This was mainly caused by two reasons: First, because certain findings did not match any of the three traditional dimensions of rhetoric as outlined by Aristotle, for example giving a call to action to the viewer. Second, because conspicuous features were sometimes specific to the platforms multimodality, for example when narrators looked directly at the camera used to record the video, which is a situation of interaction that has not been around when Aristotle created his rhetorical framework.

For the actual coding process, this meant that a first round of coding took place which looked at only the transcript of the dataset. Using YouTube's automatic transcription feature, the transcripts of the videos were extracted and examined isolated from any other modes within the platform. For this coding phase, half of the dataset was coded manually. The AI feature of *Atlas.ti* was used in addition to code all of the transcript. After both coding activities, the codes were imported into one

project and then merged. The next round of coding took place which looked at all the non-textual modes of the videos. Hence, coding took place by looking at the actual videos while avoiding any coding activities related to the textual layer. This was done as all of the various modes contribute to the meaning of the material in their own way, for example music, tonality, image composition or gesture (Gee, 2014, p. 39). In the third and final step, the videos were looked at as a whole, using codes that derived from the two previous steps, being textual as well as all other multimodal codes. Ultimately, this led to the creation of the final codebook, which helped to uncover the persuasive strategies of the content creators implemented in their videos.

Identifying *persuasion in the post truth era* in the dataset was based on the three rhetorical appeals, ethos (relying on ones own credibility), pathos (persuading through emotions) and logos (using facts and logical reasoning) applied to communicating false beliefs made-up oppositions (Giusti & Piras, p. 5, 2020; Thesaurus, 2022, para. 5).

Table 1. Coding frame resulting from the hybrid deductive-inductive approach.

Ethos	Pathos	Logos	Viewer Addressing
Climate change awareness & impact	Body/face expression	Critical Thinking & Reasoning	Looking in camera
Economic & social concerns	Editing techniques	Energy Transition & Innovation	Urgency & Call to Action
Environmental concerns & policy	Emotional Expression & Frustration	Inserting text	
Media influence/alarmism	Empathy & Social Justice	Inserting video/image/news report	
Political & power dynamics	Humour & Satire	Science & Data Analysis	
Presence of graphic/logo	Humorous behaviour	Showing statistics/article	
Reliability/trustworthiness	Raising Voice		
Serious/critical tone	Sound design		
Scepticism of scientists/authorities			

Ultimately, the hybrid deductive-inductive approach led to three deductive categories (Ethos, Pathos and Logos) and as well as one inductive category (Viewer Addressing). The coding frame (see Table 1) shows that in total, nine codes were assigned to Ethos, eight codes to Pathos, six codes to Logos, and two codes to Viewer addressing.

To achieve a high credibility in this study, practices of thick description were applied, which

means that I as the researcher account for the specificity and circumstantiality of the dataset (Geertz, 1973, as cited in Tracy, 2010, p. 843). According to (Tracy, 2010, p. 843), this means that enough detail on the research is provided, through which the readers are enabled to draw their own conclusions of the study. This will be especially important in regards to concepts like polarization, as various story framing approaches can lead to polarizing content (Mall et al., 2024, p. 14), as the perception of what is polarizing depends on the individual.

4. Results

4.1 Ethos

Amongst all rhetorical tools applied by climate change sceptical YouTube creators, the use of tactics related to Ethos has been present the most in the whole data set (see Table 2). Across all creators, the use of sceptical or critical tone to enhance their seriousness and making their messages more persuasive, appeared as the most used strategy (see Table 2). Following the tone of voice to create credibility, using digital visuals like graphics and logos, or criticizing the media for alarmist claims are the next strongest present form or creating credibility (see Table 2).

However, certain tactics appeared to be more specific to individual channels. Content on *John Stossel* expresses the acceptance of climate change the most (see Table 2). This is often done with the intention of not being perceived as a climate change denialist, which is also clearly mentioned in the following statement:

> Of course, I believe in global warming. Pat Michaels is called a climate change denier, but he agrees that the globe is warmed. 97% of scientists agree that global warming is real, and people have something to do with it (John Stossel, 2017, 0:29).

Other creators, like *Heartland Institute*, make such statements with a less obvious distinction from denialism:

> Humans have adapted quite well to rising seas during the past two centuries. Cities and towns that were on the coast in the mid-1800s remain intact on coastlines today, despite nearly two feet of sea level rise since then – and that was with only 19th and 20th century technologies available (Heartland Institute, 2024, 01:48).

By accepting parts of the scientific consensus on climate change and its impact, in this case the rising sea level, the protagonist appears as credible, as climate change is not neglected. While *Steven Crowder* expresses his awareness around the impact of climate change the least, he appears to be the most worried around economic and social concerns related to climate change (see Table 2). In one of the videos, the protagonist states the following:

> They want us to foot the bill for everybody else's carbon emissions . . . Thank God for the United States and their advancement in innovation. And this bill would disproportionately harm the American people (Steven Crowder, 2017, 02:21).

It seems that the protagonist uses a nationalist approach to appear as a solidary person, while giving reasonable sounding objections, like “disproportionately harming”, that are targeted

towards the well-being of the citizen. Such concerns were expressed almost three times more than at *PragerU* and *Heartland Institute*, the two YouTube channels that present their content in a narrative, solo approach. When comparing them with the two conversation style channels that are *Steven Crowder* and *John Stossel* – who both use such tools at least twice as often as solo style channels – it appears that economic and social concerns are their preferred way to establish credibility amongst their audience.

Table 2. Code frequency of category Ethos across the four YouTube channels.

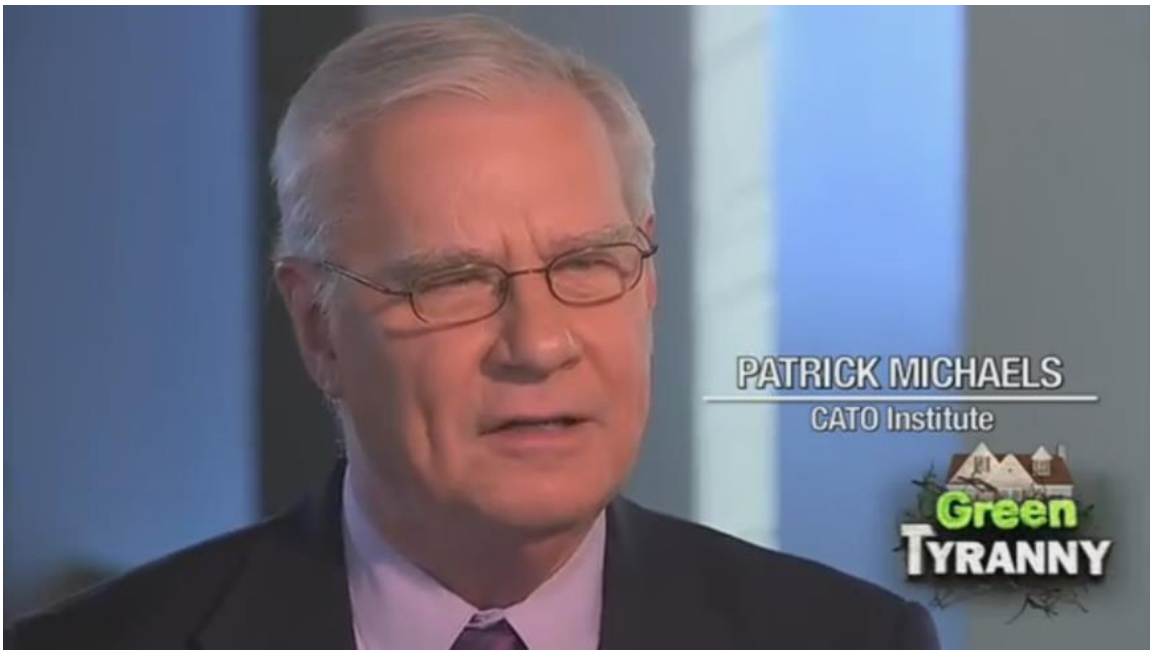
	Conversation style		*Solo style*	
	Steven Crowder (N = 4)	John Stossel (N = 8)	PragerU (N = 7)	Heartland Institute (N = 17)
Climate change awareness & impact	3 times	21 times	5 times	12 times
Economic & social concerns	14 times	10 times	5 times	5 times
Environmental concerns & policy	10 times	10 times	8 times	2 times
Media influence/alarmism	2 times	33 times	14 times	12 times
Political & power dynamics	3 times	15 times	4 times	1 time
Presence of graphic/logo	7 times	28 times	12 times	17 times
Reliability/trustworthiness	6 times	11 times	9 times	8 times
Serious/critical tone	27 times	73 times	31 times	17 times
Scepticism of scientists/authorities	10 times	20 times	12 times	11 times
	82 times	221 times	100 times	85 times

A similar but less extreme trend can be seen for concerns expressed around the environment and related policies, as the conversation-driven creators use such techniques more often than the creators who focus more on explaining by themselves. For example, *Steven Crowder* mentions opposing claims, which presents him as a credible speaker, as his political opposition is presented like the following:

> The left here, not only do they not want nuclear, they don't want hydro power because we can't build dams in California. You can't build dams because of a fish that can't even swim well (Steven Crowder, 2022, 11:19).

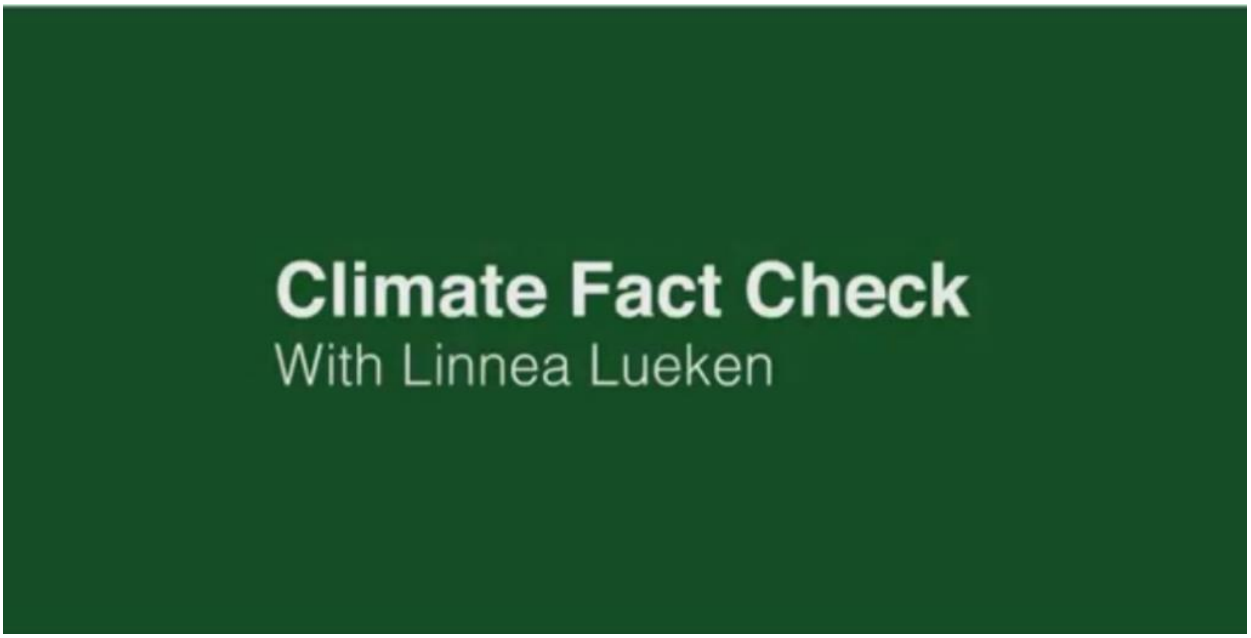
Another technique that is used to establish credibility is the insertion of graphics or logos. A common way of leveraging the visual layer for such credibility is used the most by *John Stossel* (see Table 2), as inserts are being shown during videos, where apart from the name, also the institution of the portrayed person is being shown (see Figure 1).

Figure 1. Inserting name and institute of person (John Stossel, 2017, 02:53).



Other creators like *Heartland Institute*, who leverages this technique the second most (see Table 2), insert graphics or text more explicitly than *John Stossel*. For example, stating the title of the video format and name of the researcher leads to an increase in credibility, as values such as honesty or reliability are being attributed to the protagonist (see Figure 2).

Figure 2. The use of graphics at Heartland Institute (Heartland Institute, 2025b, 02:09).



What stands out that despite being used as the third most tool to establish credibility, criticizing the media and general alarmist claims is only visible twice at *Steven Crowder*, where its used at least 10 times for all of the other YouTube channels (see Table 2). This is especially interesting, as the conversation-based and nationalist-targeted content might be expected to be a breeding ground for

challenging mainstream media claims – which is not the case for *Steven Crowder*, but very much the case for the other conversation style creator *John Stossel*, that can be accounted 33 times for media critical claims (see Table 2). With media critical statements such as "If I Google climate change, I get headlines like: *Even Fox News admits climate change made Irma strong*" (John Stossel, 2017b, 00:59), or alarmism accusations such as "If you want people to pay attention, you better scare them" (John Stossel, 2025, 06:18), he is heavily making use of that tool to establish his credibility. Such significant difference is not present for the other content style, as the two solo style YouTube channels share a similar amount of critical media claims (see Table 2).

4.2 Pathos

Amongst the 3 traditional rhetorical categories of Ethos, Pathos and Logos, the emotional appeal that is Pathos, has been visible the least in the examined videos of all climate change denying content creators on YouTube (see Table 2). Hereby, conversation style creators used emotional appeals twice as often as solo style creators. The channel *Steven Crowder* even used three times the amount of Pathos related techniques compared to *PragerU* and *Heartland Institute* as the solo style creators, which makes him the channel that used emotion related tools the most across the sampling unit (see Table 3). Where his dominance in this rhetorical field stands out the most, is the use humour and satire 34 times, as well as behaving in a humorous way 30 times. Both tools used are almost used three times as much as his conversation style pardon *John Stossel*, and nearly 10 times as often as the two solo style creators, where humorous behaviour is even not used at all at *PragerU* (see Table 3).

As for the use of humour and satire, *Steven Crowder* uses emotion to enhance his reasoning, for example when he expresses his disbelief about the proposed measurements of regulations for fossil fuels (Steven Crowder, 2022):

> Tell someone inner-city Detroit that, by the way, in order to enact climate justice, uh, gas prices and your, your energy prices, your monthly bills are going to have to go up by 20 percent. Watch them. See how long it takes before you wake up from your ass kicking (05:59).

A similar strategy is applied for the use of humorous behaviour. In one clip at *Steven Crowder*, it is used to articulate his criticism for the Paris climate accord. According to him, the United States are being exploited by other member nations of the agreement, as they commit to environmental related actions the most. This is presented by him in a humorous way, as he cosplays the United States as "Uncle Sam", waiting for other personified member states of the agreement to enter a shower room, implicating a rape scene (See Figure 3).

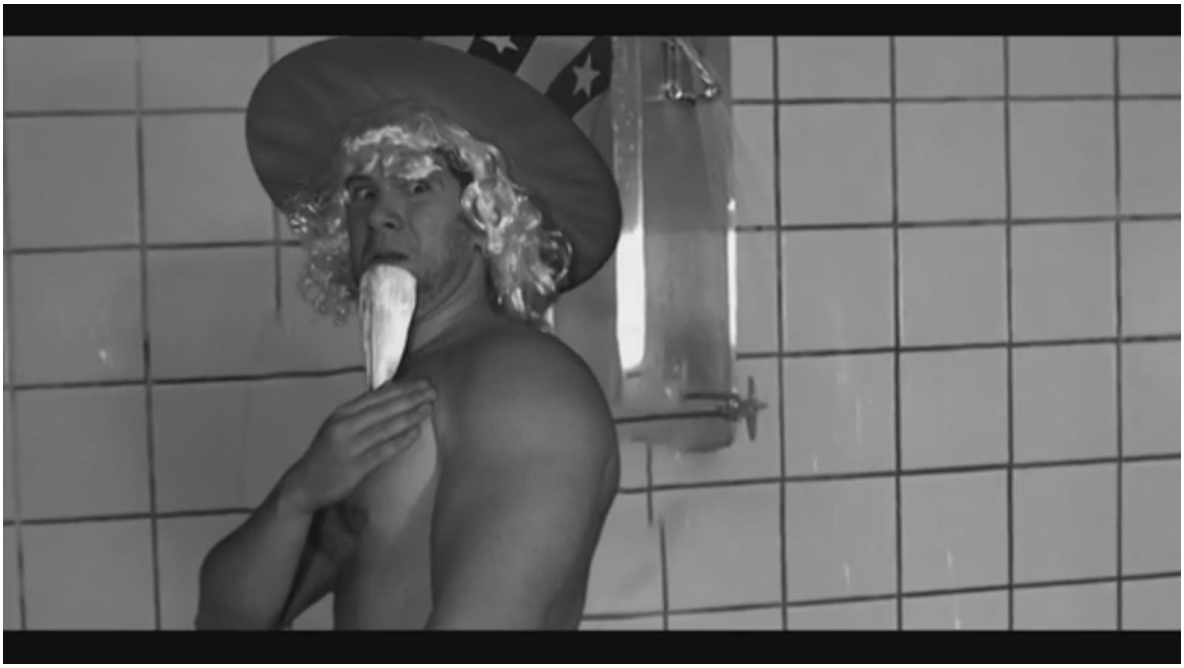
Next to humour & satire, which has been used a total amount of 54 times across the sample unit, only two other emotion-enhancing techniques have been identified with a higher frequency, one of them being the use body or facial expressions, which have been applied 62 times (see Table 3).

Table 3. Code frequency of category Pathos across the four YouTube channels.

	Conversation style		*Solo style*	
	Steven Crowder (N = 4)	John Stossel (N = 8)	PragerU (N = 7)	Heartland Institute (N = 17)
Body/face expression	18 times	19 times	3 times	22 times
Editing techniques	28 times	27 times	18 times	4 times
Emotional Expression & Frustration	3 times	5 times	0 times	0 times
Empathy & Social Justice	25 times	9 times	14 times	2 times
Humour & Satire	34 times	13 times	3 times	4 times
Humorous behaviour	30 times	12 times	0 times	4 times
Raising Voice	13 times	7 times	3 times	3 times
Sound design	7 times	7 times	17 times	17 times
	158 times	99 times	58 times	56 times

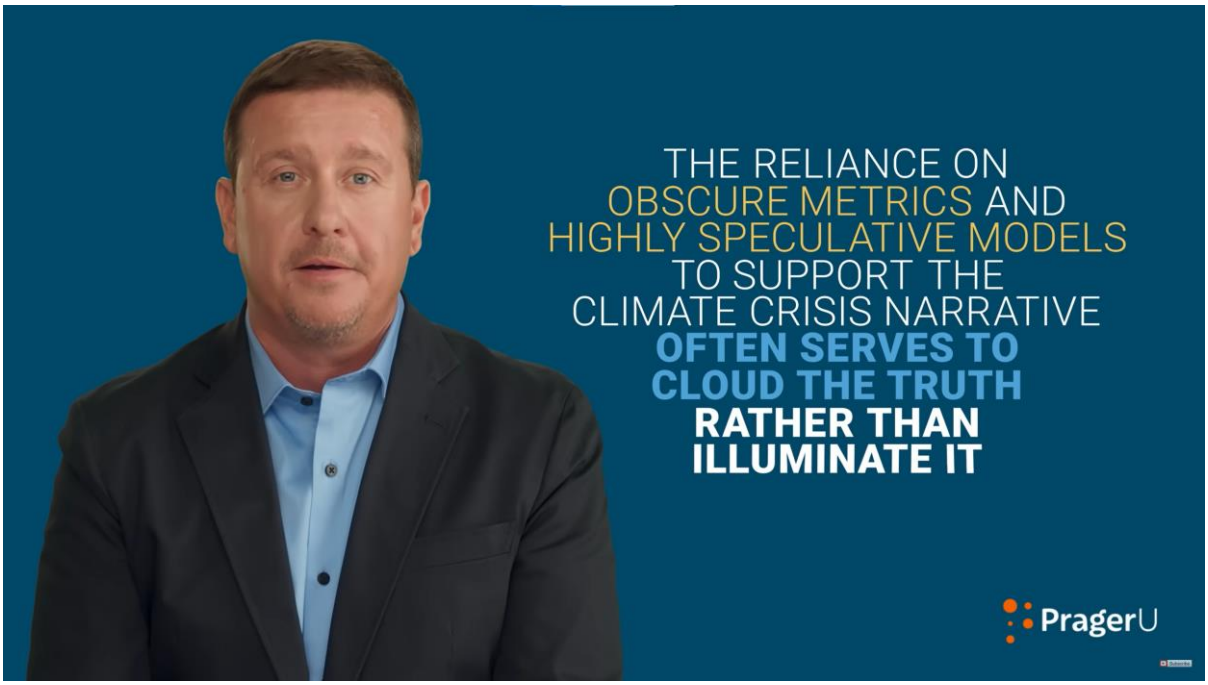
What stands out is that all creators use their body language and facial expressions fairly similar to boost their emotive appeals, except *PragerU*, where such engagement was only identified 3 times, roughly a sixth of the other creator's activity (see Table 3).

Figure 3. The YouTube creator Steven Crowder cosplaying as scared "Uncle Sam" (Steven Crowder, 2017a, 02:59).



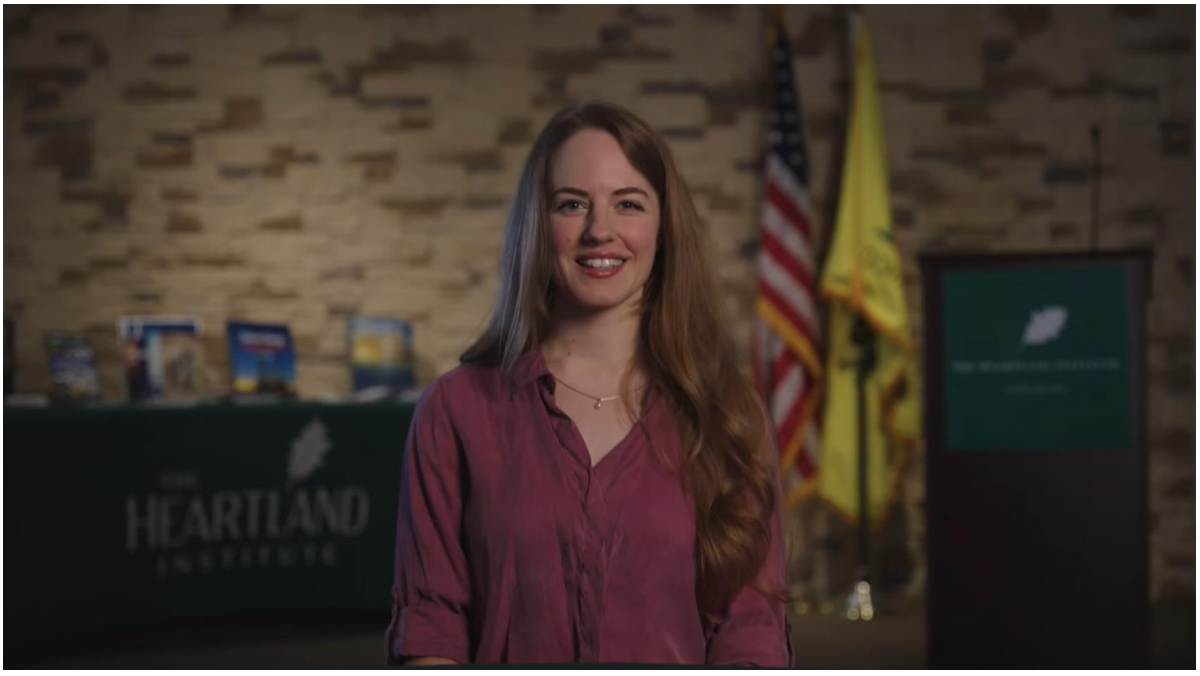
Most of the time, *PragerU* keeps a calm and expressionless face (see Figure 4), which can be seen as them prioritizing their speech and argumentation over gesture and mimic, and therefore emotional appeals as a whole.

Figure 4. A narrator at PragerU looking into the camera in a neutral way. (PragerU, 2025, 03:59).



On the other hand, *Heartland Institute* – the second YouTube channel providing content in an explanatory way – shows the most use of body and face expressions of the whole sampling unit, with a total of 22 times (see Table 3).

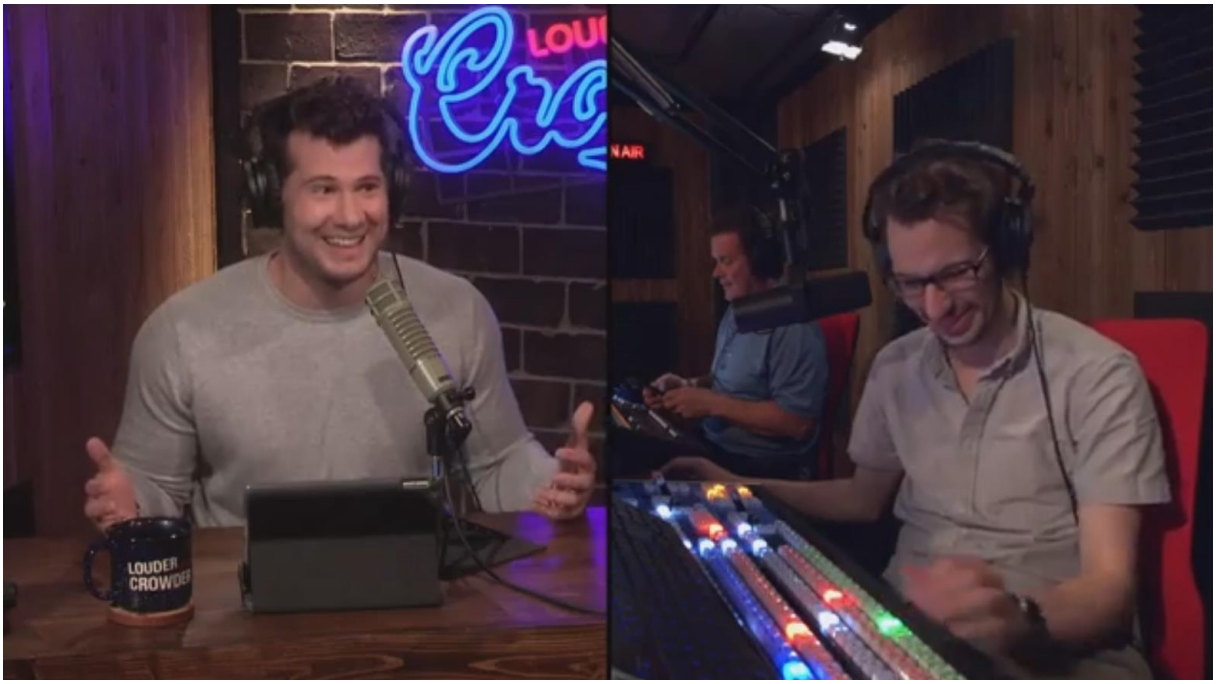
Figure 5. The narrator giving a friendly welcome at the start of the video (Heartland Institute, 2025a, 00:02).



This channel uses a different strategy compared to *PragerU*, as most of the visible body and facial expressions are related to creating a friendly, approachable appearance of the narrator (see Figure 5). What underlines the aspired seriousness from both solo style creators, is the absence from any emotional charged messages or frustrative claims, as both *PragerU* and *Heartland Institute* used such tools 0 times, whereas it was present for conversation style channels, with *John Stossel* having used them the most with 5 times in total (see Table 3). For example, by having made statements like the following: “As I research this, I'm embarrassed for my profession. They just pump nonsense out“ (John Stossel, 2025, 05:22).

The emotion-evoking tool that is used the most in total, are editing techniques, such as effects, split screens or hard cuts, with an appearance of 77 times across all four YouTube channels. These editing techniques are significantly more prominent at conversation style creators, where creators like *Steven Crowder* use them 28 times (see Table 3). Often, they are used to reinforce other emotive appeals, such as humour & satire, which is achieved by showing the reaction of other people when a joke is being told by the narrator, making the viewer believe in his emotive capabilities (see Figure 6).

Figure 6. Split screen showing other people’s reaction to narrators satiric statement (Steven Crowder, 2017b, 09:04).



It is worth noting that *Steven Crowder* is almost the only creator that makes use of editing techniques to underline his emotions. As Table 4 shows, the co-occurrence of the code humour & satire and the code editing techniques are present 14 times at his videos, only 1 time at *John Stossel* and not present at all at both solo style content creators.

Although conversation driven creators use most emotional appeals more frequently than solo style content creators, they differentiate in one tool, being the use of sounds design, which is used more than twice as often from both *PragerU* and *Heartland Institute* compared to *Steven Crowder* and *John Stossel* (see Table 3).

Table 4. Co-occurrence of Pathos codes humour & satire and editing techniques across the four YouTube channels.

	Conversation style		*Solo style*		
	Steven Crowder (N = 4)	John Stossel (N = 8)	PragerU (N = 7)	Heartland Institute (N = 17)	Total (N= 36)
Co-occurrence of humour & satire and editing techniques	14 times	1 time	0 times	0 times	15 times

Whereas *Heartland Institute* uses a calm, slow paced background music during all of their videos, *PragerU* uses specific sounds to enhance the flow or emotional impact of narration. This is for example done during the following statement:

> . . . developers hired biologists to pull threatened desert tortoises from their burrows. The tortoises were then loaded on the back of pickup trucks and caged in pens where many ended up dying (PragerU, 2020, 02:44).

In this case, sounds of a bagger were inserted, while showing an animation of a bagger on the screen that loaded turtles on a pickup truck. Sound was especially leveraged when the turtles were dropped on the loading surface, as a sound similar to dropping lots of objects at once was inserted, underlining the narrator's intention of staging the relocation of turtles – due to the construction of wind turbines – as brutal and cold-hearted actions.

4.3 Logos

The third rhetorical appeal Logos was applied almost as often as the most used rhetorical appeal Ethos (see Table 5). Overall, the insert of videos, applying critical thinking and reasoning, as well as showing statistics or scientific articles have been present the most (see Table 5). Whereas conversation style creators dominated in terms of using emotions to enhance their persuasive intentions, solo style creators applied a significantly higher number of argumentation-related tools. As for critical thinking and reasoning, both *PragerU* and *Heartland Institute* showed a much higher frequency its application to enhance their logical argumentation (see Table 5). As stated in one of the videos and *Heartland Institute*, critical thinking is applied to weaken the scientific consensus on climate change caused due to global warming, by the following statement:

> They point to surveys that ask the meaningless question of whether temperatures have risen lately. Scientists believing that temperatures have modestly risen in recent years is not the same as scientists believing the sky is falling (Heartland Institute, 2024a, 02:28).

A similar strategy is often present at *PragerU*, as a critical attitude is applied in a similar way, often with the intention of neglecting climate change forecasting models developed by scientists, which can be seen in the following excerpt:

> What's behind all these confident assertions? . . . I can tell you that it comes down to two things: obscure metrics and highly speculative models. Mix these ingredients together, and voila, you can get any result you want — the scarier, of course, the better (PragerU, 2025, 00:51).

The same goes for analysing science or data to support the flow of argumentation, which is used twice as often from *PragerU* and even more than three times as often from *Heartland Institute* compared to the other two conversation style creators.

Table 5. Code frequency of category Logos across the four YouTube channels.

	Conversation style		*Solo style*		
	Steven Crowder (N = 4)	John Stossel (N = 8)	PragerU (N = 7)	Heartland Institute (N = 17)	Total (N= 36)
Critical Thinking & Reasoning	17 times	17 times	24 times	36 times	94 times
Energy Transition & Innovation	34 times	12 times	16 times	7 times	69 times
Inserting text	2 times	9 times	12 times	0 times	23 times
Inserting video/image/news report	10 times	96 times	7 times	1 time	114 times
Science & Data Analysis	8 times	11 times	22 times	37 times	78 times
Showing statistics/article	26 times	23 times	22 times	14 times	85 times
	97 times	168 times	103 times	95 times	463 times

Hereby, scientific data is often used to increase the logic of the creator's argumentation of being sceptical of climate change. One of the videos of *Heartland Institute* showcases how persuasion is increased with this strategy:

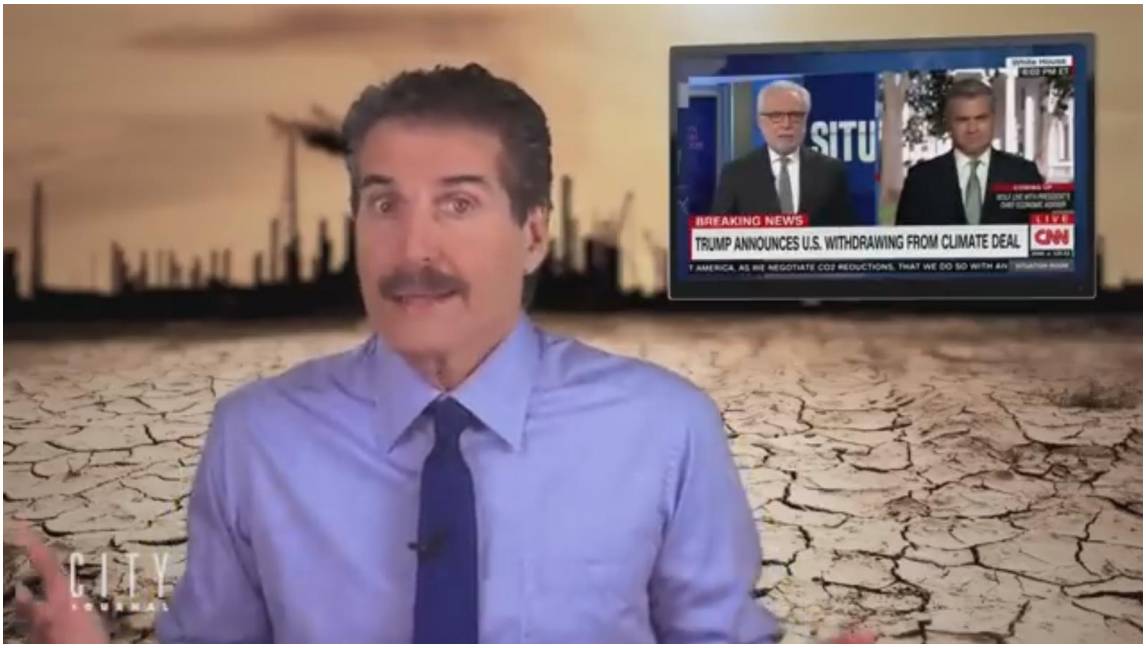
> Data show, despite what the news claims, there has been no significant increase in the number or severity of extreme weather over the past 100 years. Many types of extreme weather events have actually declined during the recent period of modest warming (Heartland Institute, 2024b, 00:16)

Similar applications can be seen at *PragerU*, where scientific sources are cited that help their logical reasoning of being sceptical towards climate change:

> We are often being told that we're seeing more and more droughts, but a study published in March 2014 in the journal Nature actually shows a decrease in the world's surface that has been afflicted by droughts since 1982 (PragerU, 2019, 01:03).

However, what stands out is that while conversation style channels do not rely as heavy on critical thinking or the incorporation of data analysis, they do make more use of inserting non-scientific videos, images or news reports (see Table 5). Specifically, the YouTube Channel *John Stossel* uses this technique almost ten times more then the other conversation style channel *Steven Crowder*, who used it the second most, inserting such content 10 times within the sampling unit (see Table 5).

Figure 7. The creator John Stossel commenting on inserted news reports (John Stossel, 2018, 00:45)

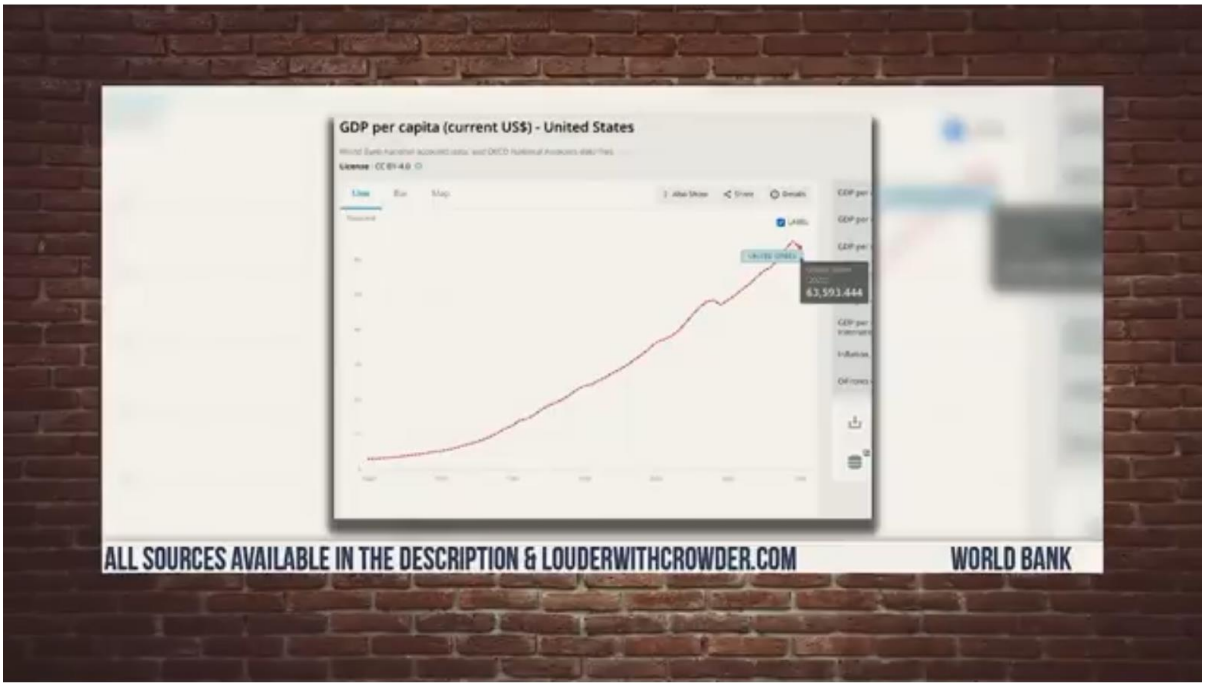


This makes this technique the leading persuasive strategy for logical argumentation of *John Stossel*. For example, news reports are being inserted in order to comment on or drastically weaken the statements that have been made, as shown in Figure 7. As for *Steven Crowder*, he used arguments towards energy transition and innovation at least twice as much compared with the other 3 creators (see Table 5). Hereby, both domains are being shown as to be intertwined and related to each other, with statements like the following:

> We wouldn't have enjoyed the miracle that is fracking, uh, that has Unleashed our own Resources with a power that we could have never even possibly imagined. It is probably one of the greatest modern Miracles that I can think of is fracking (Steven Crowder, 2017b, 04:34).

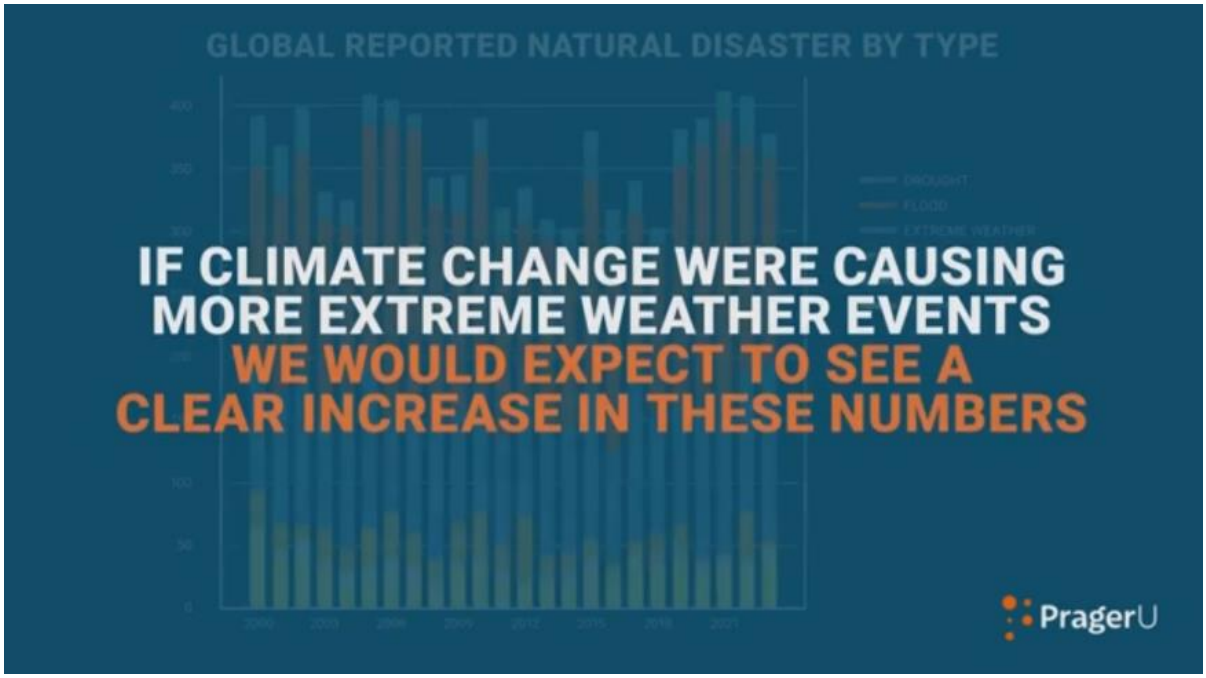
While being used almost equally by all content creators, the use of inserting statistics or scientific articles is slightly lower for *Heartland Institute* than for the other three creators.

Figure 8. Graph of GDP per capita used to argue on rising gas prices (Steven Crowder, 2022, 02:44)



For example, creators like *Steven Crowder* use statistics to enhance their argumentation, by applying their arguments to scientific data, which aims to increase the likeliness of viewers understanding their logic, which can be seen in Figure 8.

Figure 9. Using text insertion to enhance impact of argument made (PragerU, 2025, 03:01)

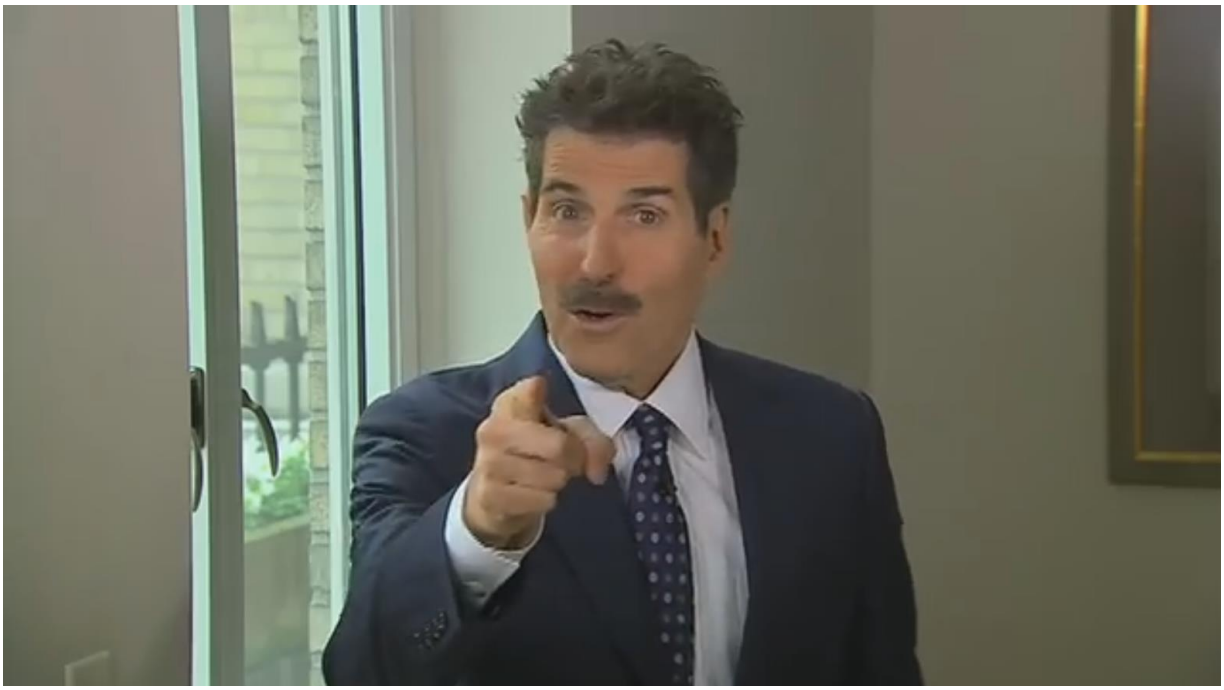


Lastly, there has been a significant difference of the use of Inserting text, ranging from *Heartland Institute* using text inserts zero times, up to *PragerU* using such tool 12 times (see Table 5). It seems that there is no correlation between conversation or solo style creators. One example of text insertion can be seen at *PragerU* (see Figure 9), who often utilize text to show important statements of the narrator on the screen, which is used to strengthen the impact of the argument made.

4.4 Viewer addressing

Viewer addressing, the fourth and last category identified in the sampling unit, was present a total amount of 48 times and evenly distributed across conversation style and solo style creators (see Table 6). While it was not used at all by *Heartland Institute* and barely by *Steven Crowder* and *PragerU*, *John Stossel* was seen to use a direct look in the camera the most (see Table 6). As Figure 10 shows, the creator *John Stossel* looks directly into the camera, supported by using his index finger to point where he is looking at. He performs this action while stating “You've heard the news, 97% of scientists agree climate change is getting worse, carbon could cost us the planet” (John Stossel, 2017a, 00:04) , which underlines the directness of his expression, leading to an exaggerated tone and the creation for humour. A similar way of using this tool is applied by *Steven Crowder*, as he uses the direct look to emphasize his critical opinion on regulations made (see Figure 11). In this scene, the protagonist can be seen stating “President Donald Trump wants to pull out of the Paris climate Accord, so this is something that everybody is talking about right now. Um, good. I'm all for it”.

Figure 10. The creator John Stossel looking directly into the camera (John Stossel, 2017a, 00:03)



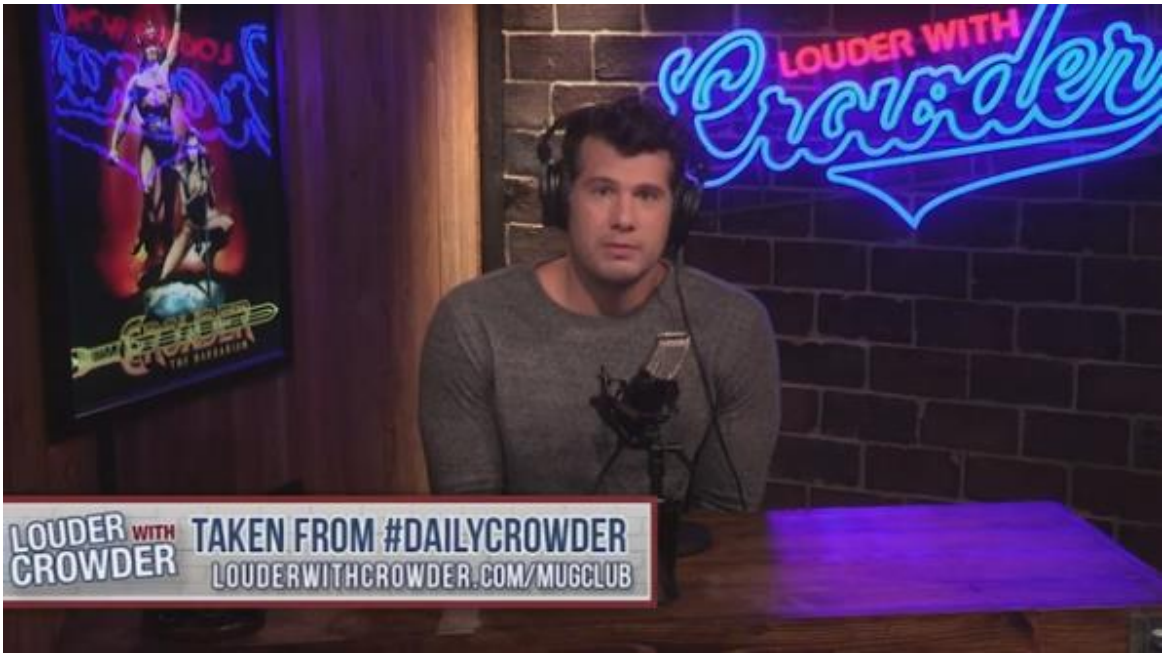
What is interesting to note is that such tools often appear towards the start of the videos for conversation style driven creators, whereas solo style creators seem to apply viewer addressing more towards the end of their content.

Table 6. Code frequency of category Viewer addressing the four YouTube channels.

	Conversation style		*Solo style*		
	Steven Crowder (N = 4)	John Stossel (N = 8)	PragerU (N = 7)	Heartland Institute (N = 17)	Total (N= 36)
Looking in camera	2 times	7 times	2 times	0 times	11 times
Urgency & Call to Action	4 times	9 times	7 times	17 times	37 times
	6 times	16 times	9 times	17 times	48 times

As for the tool of evoking urgency and giving a call to action, which was used 3 times more then the direct look into the camera, the creators *Heartland Institute* and *John Stossel* were identified as using it the most (see Table 6).

Figure 11. Steven crowder staring into the camera after a definite statement (Steven Crowder, 2017a, 00:12)



For example, videos from *Heartland Institute* implement a call to action at the end of their videos, stating “For the sources used as reference for this video, you can check out climateataglance.com, . . . “ (Heartland Institute, 2025a, 01:32). As for *John Stossel*, statements like “we count on viewers like you to keep these videos coming. Please click that button” (John Stossel, 2020, 04:07) are made, referring to the platforms specific affordance, as the narrator is referring to subscribe to the channel to not miss out on further content. At other times, the viewer is advised to do their own research if in doubt of mainstream scientific sources, as done with statements like the

following: “If you're sceptical that the alarmists are wrong. You can look at the sources yourself, they’re in the description” (John Stossel, 2025, 06:25). At *PragerU*, directly addressing the viewer is often used to ask for donations, as the narrators state: “Thank you for watching this video. To keep PragerU videos free, please consider making a tax-deductible donation” (PragerU, 2021, 05:17).

5. Discussion and Conclusion

This thesis investigated what persuasive strategies climate-change denying content creators on YouTube implement in their videos. For this, the content of four creators has been analyzed from a hybrid deductive-inductive approach, that uncovered three deductive and one inductive category across the whole dataset.

5.1 The power of credibility

Credibility was the most used persuasive tool the most across all YouTube channels. Here, the tools of tone adjustment, inserting graphics or criticizing alarmist claims occurred the most. Conversation style creators mostly established credibility through concerns regarding economy, environment or social domains, whereas solo style creators prefer tone shifts or graphic inserts.

Findings like the significant use of tone adjustment, which has been previously identified by Rowland and Kuchel (2023, p. 16) to be an important tool of creating credibility, re-confirm findings presented by previous literature. However, what is a new finding of this study, which has not been uncovered in the existing academic landscape, is how the use of tone can be a preferred way of solo style oriented climate sceptics, when comparing them to conversation style creators. Researchers like Rowland and Kuchel (2023, p. 15) highlighted that certain types of persuasive appeals might be more used differently depending on the audience or goal of communication, however there has been no indication yet to what type of creators prefer what. Hence, results from this research uncover the connection of conversation based, nationalism oriented creators on YouTube with the expression of environmental, social or economic concerns to establish credibility. This gives concrete examples and operationalizes the three dimensions explained by Munger (2024, p. 45), being reliability, authenticity and accountability. Furthermore, these results add significant findings that have been previously underexplored, such as in one of the most recent studies on climate change denial by (De Nadal, 2024, p. 1186). While this research acknowledges that climate change sceptical creators on YouTube try to avoid being labelled as denialists, it does not explore how is this actually achieved. Results from this thesis support the idea that Ethos is not only used to persuade, but also to legitimate the creator's opinions by distancing themselves from denialist claims. Hence, it can be seen as a direct technique from the creators to adapt to the changing circumstances within the post-truth era. Adding up to this, results on *Steven Crowder's* low usage of criticizing media, which would usually fit his nationalist thought framework, support this new finding of how climate change sceptical creators on YouTube utilize – or especially not utilize – techniques that count towards their credibility.

5.2 Emotion as amplifier for the narrative

Emotional rhetorical appeals were applied the least, while creators that used this persuasive tool, mostly relied on editing techniques, body or facial expressions as well as humour & satire. When comparing the two different creator styles, explicit techniques like humour & satire or editing techniques were used by conversation style creators, while solo style creators leaned towards subtle tools, like sound design.

As previously mentioned, O'Keefe (2019, p. 320) and Peng et al. (2023, p. 16) state as a last resort, triggering the feeling of guilt can be a powerful persuasive tool to evoke the desired actions, specifically for environmental advocacy. However, research from this study suggest the opposite, especially for populist creators like *Steven Crowder*, who predominantly uses humour and satire to persuade the viewer from his scepticism towards climate change. Hence, this research shows that mocking opposing views, instead of evoking fear or guilt, is one of the contemporary tools to persuade within emotional appeals.

Furthermore, the dominant use of editing techniques of such populist and conversation-oriented channels confirm this, as such platform-specific modalities are exploited to further emphasize the creation of humorous sequences. Unlike new approaches of what emotions are being triggered, the use of editing techniques has not been covered extensively in previous literature, especially in regards to climate change sceptics. While Munger (2024, p. 45) states that creators establish a distinct appearance in order to develop a para-social relationship within a specific audience, it is not stated how this is present out in the climate change sceptical context. As this study uncovered, conversation style, populist minded creators show a much more humour-based emotive approach, while solo style creators aim for a more neutral, less emotive appearance.

5.3 Persuading with logical argumentation

Climate sceptical creators use the persuasive appeal Logos the second most often. Specific channels like *Steven Crowder* rely on topics like energy transition and innovation to support their thoughts, while *John Stossel* excessively use videos or news reports. Overall, solo style creators focus more on critical thinking and implementing science and data analysis.

While scholars like Petersen et al. (2019, p. 118) introduce the concept of technological optimism as applied by *Steven Crowder*, they lack its explicit application within the rhetorical context. As this study has shown, techno-optimism is not just about articulating a certain belief, it is a rhetorical tool of Logos, especially amongst nationalist or right-wing leaning creators. One finding of this study that has not been mentioned at all, is that Logos is not only differentiated by content, but also by the mode and style used to articulate a logical argumentation. Whereas solo style creators like

PragerU or *Heartland Institute* prefer the use of traditional forms of Logos, such as critical reasoning or analysing scientific data, conversation-style creators like *Steven Crowder* or *John Stossel* use less scientific, more accessible and performative tools, such as the insert of news reports or images. This provides a new angle on the way Logos is applied on climate change sceptical content on YouTube, as its not strictly about establishing proof through logical reasoning (Aristotle, 1926, p. 7), but about utilizing the platforms specific affordances to illustrate the own message in a way that looks reasonable. Additionally, findings from the study add to existing literature that critical thinking is not only used to engage constructively, but actually applied to establish uncertainty among scientific institutions. While (O'Keefe, 2019, p. 320) and (Cook, 2020, p. 66) state the risk of unprecise reasoning in persuasion and misinformation, this research shows how creators intentionally exploit the language of critical thinking to position themselves as rationalist sceptics and display the opposing party as untrustful.

5.4 Evoking urgency through a screen

As for the inductive category of Viewer Addressing, claiming urgency and implementing a call to action was used more than having eye contact by directly looking into the camera. *John Stossel* appeared as the most consistent user of both tools, *Heartland Institute* used call to actions the most and *Steven Crowder* and *PragerU* barely used such techniques.

As sketched by Munger (2024, p. 44), creators use the development para-social relationships to foster a deeper bond with their viewers. However, literature falls short on how the timing and format of directly addressing the viewer affect persuasion. As the data of the research has shown, different forms of viewer addressing are present for different types of creators. As for the conversation-style creators, directly addressing the viewer is used at the start of the videos, leading to the creators trying to pick up the viewer as quickly as possible, for example through creating some sense of immediacy or urgency. On the other hand, solo style creators use it more towards the end of their content, focusing more on guiding the behaviour of their viewers, as they ask for donations or prompt the person watching to have a look at the sources used themselves. This can be seen as an advancement to the actions proposed by O'Keefe (2019, p. 320), on what to do when the audience is not aligned with the persuasive means yet. As this study links viewer addressing with persuasive appeals, it also provokes to re-think the classical rhetoric approach in the context of climate change sceptical content, that is that usually the viewer crafts a message, transports it using the three means of persuasion and the audience is being influenced by it (Aristotle, 1926, p. 7). In this case, the rhetorical situation is inverted, as now the viewer is prompted to take on actions similar to the ones of the communicator, while being guided by him or her.

5.5 Discussion & Limitations

This study uncovered that different groups of creators prioritize not only different forms of rhetorical appeals but also tailor such tools to their own identity and target audience. On the one hand, conversation-style creators that are change sceptical towards climate change, tried to convince their audience by heavily relying on establishing trust, as they criticized existing authorities and questioned their trustworthiness. On the other hand, solo narrating climate sceptics used a more calm and reasoned appearance to convince their audience of their climate change sceptical views. Ultimately, both groups of creators apply a form microtargeting techniques, a development that continues to rise in the modern online environment (Universiteit van Amsterdam, 2024, para. 1). Hence, findings from this study lead to the evidence that such political microtargeting can be much more subtle, for example by its application in harmless looking content on YouTube. Conversation-style creators lean towards a more populistic, anti-expert audience, whereas solo style creators target a policy-minded, educational viewership. As a recent article by the Max-Planck-Gesellschaft (2024, para. 6) states, digital media have a primarily negative influence on political processes, as they increase polarization and undermine trust in authorities and institutions. This study re-confirms such societal developments, as climate sceptics heavily address these disciplines for their own persuasive benefit. Their impact is further reinforced by addressing the platforms specific modalities, for example asking the viewer to “take a look at the sources themselves”, which increases the spreading of polarized content.

While this research uncovered some important findings, it does not come without limitations. First of all, it is worth to note that all four analyzed creators are based in America. Apart from *John Stossel*, most of them even share a similar age group. Future research could therefore look into a wider range of creators, that are not only distinguished by their way of communicating, but also in terms of age or location. Secondly, as for the various modes present within the dataset, this research was not investigating multimodality itself, meaning what mode was used for what message. Here, further research is recommended to also distinguish between what modes are used for what purpose. Finally, other contemporary social media platforms that focus on shorter content forms might be worth of investigation, as a recent study by (Du et al., 2025, p. 11) uncovered their great polarization potential. Here, this thesis recommends analysing platforms providing such short-form content, such as TikTok.

References

Alfano, M., Fard, A. E., Carter, J. A., Clutton, P., & Klein, C. (2021). Technologically scaffolded atypical cognition: The case of YouTube's recommender system. *Synthese*, *199*(1–2), 835–858. https://doi.org/10.1007/s11229-020-02724-x

Allgaier, J. (2019). Science and Environmental Communication on YouTube: Strategically Distorted Communications in Online Videos on Climate Change and Climate Engineering. *Frontiers in Communication*, *4*, 36. https://doi.org/10.3389/fcomm.2019.00036

Anderson, A., & Robinson, D. (2024). *Climate Polarization and Green Investment* (No. w32131). National Bureau of Economic Research. https://doi.org/10.3386/w32131

Aristotle. (1926). *The art of rhetoric* (J. H. Freese, Trans.). Harvard University Press. (Original work published 4th century BCE). https://archive.org/details/artofrhetoric00arisuoft

Avaaz. (2020). Why is YouTube Broadcasting Climate Misinformation to Millions? YouTube is driving its users to climate misinformation and the world's most trusted brands are paying for it. [Avaaz Report]. *Avaaz*. https://secure.avaaz.org/campaign/en/youtube_climate_misinformation/

BBC. (2025, January 21). Trump vows to quit Paris climate pact and "drill, baby, drill." *BBC*. https://www.bbc.com/news/articles/c20px1e05w0o

Bond, R. M., Fariss, C. J., Jones, J. J., Kramer, A. D. I., Marlow, C., Settle, J. E., & Fowler, J. H. (2012). A 61-million-person experiment in social influence and political mobilization. *Nature*, *489*(7415), 295–298. https://doi.org/10.1038/nature11421

Brennen, B. (2017). *Qualitative research methods for media studies* (Second edition). Routledge.

Bufacchi, V. (2020, January 24). What's the difference between lies and post-truth in politics? A philosopher explains. *The Conversation*. https://theconversation.com/whats-the-difference-between-lies-and-post-truth-in-politics-a-philosopher-explains-130442

Burke, K. (1969). *A rhetoric of motives* (California ed., [Repress]). Univ. of California Press.

Busch, T., & Judick, L. (2021). Climate change—That is not real! A comparative analysis of climate-sceptic think tanks in the USA and Germany. *Climatic Change*, *164*(1–2), 18. https://doi.org/10.1007/s10584-021-02962-z

Cambridge Dictionary. (n.d.). SCEPTICISM | English Meaning. Retrieved March 21, 2025, from https://dictionary.cambridge.org/dictionary/english/scepticism

Center for Countering Digital Hate Inc. (2024, January). *The New Climate Denial*. Center for Countering Digital Hate Inc.

Chinn, S., Hart, P. S., & Soroka, S. (2020). Politicization and Polarization in Climate Change News Content, 1985-2017. *Science Communication*, *42*(1), 112–129. https://doi.org/10.1177/1075547019900290

Cinelli, M., De Francisci Morales, G., Galeazzi, A., Quattrociocchi, W., & Starnini, M. (2021). The echo chamber effect on social media. *Proceedings of the National Academy of Sciences*, *118*(9), e2023301118. https://doi.org/10.1073/pnas.2023301118

Coliva, A., & Pritchard, D. (2022). *Skepticism* (1st ed.). Routledge. https://doi.org/10.4324/9780429057946

Cook, J. (2020). Deconstructing climate science denial. In D. C. Holmes & L. M. Richardson (Eds.), *Research Handbook on Communicating Climate Change*. Edward Elgar Publishing. https://doi.org/10.4337/9781789900408.00014

Cook, J., Nuccitelli, D., Green, S. A., Richardson, M., Winkler, B., Painting, R., Way, R., Jacobs, P., & Skuce, A. (2013). Quantifying the consensus on anthropogenic global warming in the scientific literature. *Environmental Research Letters*, *8*(2), 024024. https://doi.org/10.1088/1748-9326/8/2/024024

Copernicus. (2025, January 10). Copernicus: 2024 is the first year to exceed 1.5°C above pre-industrial level. *Copernicus*. https://climate.copernicus.eu/copernicus-2024-first-year-exceed-15degc-above-pre-industrial-level

Cosentino, G. (2020). *Social Media and the Post-Truth World Order: The Global Dynamics of Disinformation*. Springer International Publishing. https://doi.org/10.1007/978-3-030-43005-4

Crano, W. D., & Prislin, R. (2006). Attitudes and Persuasion. *Annual Review of Psychology*, *57*(1), 345–374. https://doi.org/10.1146/annurev.psych.57.102904.190034

De Nadal, L. (2024). From Denial to the Culture Wars: A Study of Climate Misinformation on YouTube. *Environmental Communication*, *18*(8), 1186–1203. https://doi.org/10.1080/17524032.2024.2363861

Du, B., Ye, Z., Jankowska, M., Wu, Z., Ai, Q., Zhou, Y., & Liu, Y. (2025). EEG reveals the cognitive impact of polarized content in short video scenarios. *Scientific Reports*, *15*(1), 18277. https://doi.org/10.1038/s41598-025-02423-y

Edenberg, E., & Hannon, M. (2021). *Political epistemology*. Oxford University Press.

E&E News. (2025, June 16). How Trump's assault on science is blinding America to climate change—E&E News by POLITICO. *E&E News*. https://www.eenews.net/articles/how-trumps-assault-on-science-is-blinding-america-to-climate-change/

European Space Agency. (2024, October 31). ESA - Valencia flood disaster. *European Space Agency*. https://www.esa.int/ESA_Multimedia/Images/2024/10/Valencia_flood_disaster

Fennis, B. M., Adriaanse, M. A., Stroebe, W., & Pol, B. (2011). Bridging the intention–behavior gap: Inducing implementation intentions through persuasive appeals. *Journal of Consumer Psychology*, *21*(3), 302–311. https://doi.org/10.1016/j.jcps.2010.12.003

Flick, U. (Ed.). (2010). *A companion to qualitative research* (Repr). SAGE.

Flick, U. (2018). *The SAGE Handbook of Qualitative Data Collection*. SAGE Publications Ltd. https://doi.org/10.4135/9781526416070

Foster, C. L. E. (2023). Truth as social practice in a digital era: Iteration as persuasion. *AI & SOCIETY*, *38*(5), 2009–2023. https://doi.org/10.1007/s00146-021-01306-w

Gee, J. P. (Ed.). (2014). *The Routledge handbook of discourse analysis* (1. publ. in paperback). Routledge.

Giusti, S., & Piras, E. (2020). *Democracy and Fake News: Information Manipulation and Post-Truth Politics* (1st ed.). Routledge. https://doi.org/10.4324/9781003037385

Grusauskaite, K., Carbone, L., Harambam, J., & Aupers, S. (2024). Debating (in) echo chambers: How culture shapes communication in conspiracy theory networks on *YouTube*. *New Media & Society*, *26*(12), 7037–7057. https://doi.org/10.1177/14614448231162585

Halmari, H., & Virtanen, T. (Eds.). (2005). *Persuasion across genres: A linguistic approach*. John Benjamins Publishing Company. https://doi.org/10.1075/pbns.130

Hannon, M., & Ridder, J. de. (2021). *The Routledge handbook of political epistemology*. Routledge.

Hart, P. S., & Nisbet, E. C. (2012). Boomerang Effects in Science Communication: How Motivated Reasoning and Identity Cues Amplify Opinion Polarization About Climate Mitigation Policies. *Communication Research*, *39*(6), 701–723. https://doi.org/10.1177/0093650211416646

Heartland Institute. (n.d.). *Heartland Institute* [YouTube Channel]. YouTube. Retrieved June 16, 2025, from https://www.youtube.com/@HeartlandInstitute

Heartland Institute (2024a, May 13). *Rethinking the Climate Change Consensus—YouTube* [Video]. https://www.youtube.com/watch?v=jGGc4aGI4KY

Heartland Institute. (2024b, May 29). *Extreme Weather Deaths and Climate Change—A Data-Driven Analysis—YouTube* [Video]. https://www.youtube.com/watch?v=VI0DWSc4tg8

Heartland Institute. (2024c, June 10). *Sea Level Rise: A Measly 1.2 Inches Every Decade—YouTube* [Video]. https://www.youtube.com/watch?v=9omc3F5ILH8

Heartland Institute. (2025a, February 3). *Why Winter Extremes Aren't Proof of a Climate Crisis—YouTube* [Video]. https://www.youtube.com/watch?v=ru3NvQ1I_Lk

Heartland Institute. (2025b, March 10). *Why Experts Are Rethinking the 1.5°C Climate Tipping Point—YouTube* [Video]. https://www.youtube.com/watch?v=iIXel695TmY

Heartland Institute. (2025c, March 17). *The Science They Won't Tell You: CO2's Warming Limit—YouTube* [Video]. https://www.youtube.com/watch?v=jV2KozyIusg

Hornsey, M. J., & Lewandowsky, S. (2022). A toolkit for understanding and addressing climate scepticism. *Nature Human Behaviour*, *6*(11), 1454–1464. https://doi.org/10.1038/s41562-022-01463-y

Hosseinmardi, H., Ghasemian, A., Clauset, A., Mobius, M., Rothschild, D. M., & Watts, D. J. (2021). Examining the consumption of radical content on YouTube. *Proceedings of the National Academy of Sciences*, *118*(32), e2101967118. https://doi.org/10.1073/pnas.2101967118

Huber, R. A., Greussing, E., & Eberl, J.-M. (2022). From populism to climate scepticism: The role of institutional trust and attitudes towards science. *Environmental Politics*, *31*(7), 1115–1138. https://doi.org/10.1080/09644016.2021.1978200

IPCC (Ed.). (2008). *Climate Change 2007: Synthesis report: a report of the Intergovernmental Panel on Climate Change*. IPCC.

IPCC. (2023). *Climate Change 2023: Synthesis Report* (First). Intergovernmental Panel on Climate Change (IPCC). https://doi.org/10.59327/IPCC/AR6-9789291691647

John Stossel (n.d.). *John Stossel*. [YouTube Channel]. YouTube. Retrieved April 26, 2025, from https://www.youtube.com/@StosselTV

John Stossel. (2017a, February 1). *The Truth About Climate Change—YouTube* [Video]. https://www.youtube.com/watch?v=m3hHi4sylxE

John Stossel. (2017b, September 9). *Hurricanes NOT caused by "manmade climate change"—YouTube* [Video]. https://www.youtube.com/watch?v=h7_yMuy2ip4

John Stossel. (2018, March 19). *The Paris Climate Fraud—YouTube* [Video]. https://www.youtube.com/watch?v=cVkAsPizAbU

John Stossel. (2020, November 17). *The Climate Hustle—YouTube* [Video]. https://www.youtube.com/watch?v=ZBGCjqUdQJQ

John Stossel. (2025, April 22). *Climate Change Myths Part 2: Wildfires, Drought, Rising Sea Level, and Coral Reefs—YouTube* [Video]. https://www.youtube.com/watch?v=GctDsMw8N4Y

Kress, G. R., & Leeuwen, T. van. (2001). *Multimodal discourse: The modes and media of contemporary communication*. Arnold.

Kvale, S., & Brinkmann, S. (2005). *InterViews: An introduction to qualitative research interviewing* (Repress). Sage.

Lewandowsky, S., Ecker, U. K. H., & Cook, J. (2017). Beyond misinformation: Understanding and coping with the "post-truth" era. *Journal of Applied Research in Memory and Cognition*, *6*(4), 353–369. https://doi.org/10.1016/j.jarmac.2017.07.008

Lim, W. M. (2024). What Is Qualitative Research? An Overview and Guidelines. *Australasian Marketing Journal*, *33*(2), 199-229. https://doi.org/10.1177/14413582241264619

Lynas, M., Houlton, B. Z., & Perry, S. (2021). Greater than 99% consensus on human caused climate change in the peer-reviewed scientific literature. *Environmental Research Letters*, *16*(11), 114005. https://doi.org/10.1088/1748-9326/ac2966

Mahmoudi, A., Jemielniak, D., & Ciechanowski, L. (2024). Echo Chambers in Online Social Networks: A Systematic Literature Review. *IEEE Access*, *12*, 9594–9620. https://doi.org/10.1109/ACCESS.2024.3353054

Mall, R., Nagpal, M., Salminen, J., Almerekhi, H., Jung, S., & Jansen, B. J. (2024). Politics on YouTube: Detecting Online Group Polarization Based on News Videos' Comments. *Sage Open*, *14*(2), 21582440241256438. https://doi.org/10.1177/21582440241256438

Max-Planck-Gesellschaft. (2024, April 10). *Digital media – A threat to democracy?* https://www.mpg.de/24519906/digital-media-a-threat-to-democracy

Merriam, S. B., & Grenier, R. S. (Eds.). (2019). *Qualitative research in practice: Examples for discussion and analysis* (Second edition). Jossey-Bass.

Moore, B. E., & Fine, B. D. (1968). *Glossary of Psychoanalytic Term and Concepts* (2nd ed.). American Psychoanalytic Association.

Munger, K. (2024). *The YouTube Apparatus* (1st ed.). Cambridge University Press. https://doi.org/10.1017/9781009359795

NL Times. (2025, April 5). Extinction Rebellion activists block A12 in The Hague to protest fossil fuel subsidies. *NL Times*. https://nltimes.nl/2025/04/05/extinction-rebellion-activists-block-a12-hague-protest-fossil-fuel-subsidies

Noriego, A. (2025, May 14). Climate denial's new tactic: Less science, more fear of energy prices. *Driving Eco*. https://www.drivingeco.com/en/nueva-tactica-negacionismo-climatico-menos-ciencia-mas-miedo-precio-energia/

O'Keefe, D. J. (2019). Persuasion. In O. Hargie (E.d.), *The handbook of communication skills* (Fourth Edition, pp. 319–335). Routledge.

Okruszek, Ł., Piejka, A., Banasik-Jemielniak, N., & Jemielniak, D. (2022). Climate change, vaccines, GMO: The N400 effect as a marker of attitudes toward scientific issues. *PLOS ONE*, *17*(10), e0273346. https://doi.org/10.1371/journal.pone.0273346

Oxford Economics. (2022). The State of the Creator Economy 2022: YouTube US. Oxford Economics. https://www.oxfordeconomics.com/resource/youtube-us/

Park, S., Shim, H. S., Chatterjee, M., Sagae, K., & Morency, L.-P. (2016). Multimodal Analysis and Prediction of Persuasiveness in Online Social Multimedia. *ACM Transactions on Interactive Intelligent Systems*, *6*(3), 1–25. https://doi.org/10.1145/2897739

Parkinson, J., David, P., & Rundle-Thiele, S. (2017). Self-efficacy or perceived behavioural control: Which influences consumers' physical activity and healthful eating behaviour maintenance? *Journal of Consumer Behaviour*, *16*(5), 413–423. https://doi.org/10.1002/cb.1641

Pearce, W., Niederer, S., Özkula, S. M., & Sánchez Querubín, N. (2019). The social media life of climate change: Platforms, publics, and future imaginaries. *WIREs Climate Change*, *10*(2), e569. https://doi.org/10.1002/wcc.569

Pelclová, J., & Lu, W. (Eds.). (2018). *Persuasion in Public Discourse: Cognitive and functional perspectives* (Vol. 79). John Benjamins Publishing Company. https://doi.org/10.1075/dapsac.79

Peng, W., Huang, Q., Mao, B., Lun, D., Malova, E., Simmons, J. V., & Carcioppolo, N. (2023). When guilt works: A comprehensive meta-analysis of guilt appeals. *Frontiers in Psychology*, *14*, 1201631. https://doi.org/10.3389/fpsyg.2023.1201631

Pérez-Escolar, M. (Ed.). (2022). Hate Speech and Polarization in Participatory Society. Routledge. https://doi.org/10.4324/9780367626013

Petersen, B., Stuart, D., & Gunderson, R. (2019). Reconceptualizing Climate Change Denial: Ideological Denialism Misdiagnoses Climate Change and Limits Effective Action. *Human Ecology Review*, *25*(2), 117–141. https://doi.org/10.22459/HER.25.02.2019.08

PragerU. (n.d.). *PraguerU* [YouTube Channel]. YouTube. Retrieved June 16, 2025, from https://www.youtube.com/channel/UCZWlSUNDvCCS1hBiXV0zKcA

PragerU. (2019, September 9). *Climate Alarmism Isn't Rational | Short Clips—YouTube* [Video]. https://www.youtube.com/watch?v=tUR0LrSadkg

PragerU. (2020, August 10). *Do We Have to Destroy the Earth to Save It? | 5 Minute Video—YouTube* [Video]. https://www.youtube.com/watch?v=Rc5AlFo3zTk

PragerU. (2021, October 25). *Is There Really a Climate Emergency? | 5 Minute Video—YouTube* [Video]. https://www.youtube.com/watch?v=P19ywkobLX8

PragerU. (2025, January 20). *...It Must Be Climate Change! | 5-Minute Videos | PragerU - YouTube* [Video]. https://www.youtube.com/watch?v=Jz7a_Gr-ggY

Putri, S. D. G., Purnomo, E. P., & Khairunissa, T. (2024). Echo Chambers and Algorithmic Bias: The Homogenization of Online Culture in a Smart Society. *SHS Web of Conferences*, *202*, 05001. https://doi.org/10.1051/shsconf/202420205001

Rapp, C. (2010). *Aristotle's Rhetoric*. The Stanford Encyclopedia of Philosophy. https://plato.stanford.edu/archives/spr2010/entries/aristotle-rhetoric/

Readfearn, G. (2016, November 29). Revealed: Most Popular Climate Story on Social Media Told Half a Million People the Science Was a Hoax—DeSmog. *DeSmog*. https://www.desmog.com/2016/11/29/revealed-most-popular-climate-story-social-media-told-half-million-people-science-was-hoax/

Rowland, S., & Kuchel, L. (Eds.). (2023). *Teaching Science Students to Communicate: A Practical Guide*. Springer International Publishing. https://doi.org/10.1007/978-3-030-91628-2

Saunders, B., Sim, J., Kingstone, T., Baker, S., Waterfield, J., Bartlam, B., Burroughs, H., & Jinks, C. (2018). Saturation in qualitative research: Exploring its conceptualization and operationalization. *Quality & Quantity*, *52*(4), 1893–1907. https://doi.org/10.1007/s11135-017-0574-8

Sharman, A. (2014). Mapping the climate sceptical blogosphere. *Global Environmental Change*, *26*, 159–170. https://doi.org/10.1016/j.gloenvcha.2014.03.003

Sharot, T., & Sunstein, C. R. (2020). How people decide what they want to know. *Nature Human Behaviour*, *4*(1), 14–19. https://doi.org/10.1038/s41562-019-0793-1

Steven Crowder. (2017a, January 6). *EXPLAINED: The Paris Climate Agreement Scam! | Louder With Crowder—YouTube* [Video]. https://www.youtube.com/watch?v=cVOOMyYde0c

Steven Crowder. (2017b, April 1). *Destroy "Clean Energy" Plan? YES, PLEASE! | Louder With Crowder—YouTube* [Video]. https://www.youtube.com/watch?v=M9emMtMU6lc

Steven Crowder. (2022, July 29). *Debunking Climate Change Myths | Louder With Crowder—YouTube* [Video]. https://www.youtube.com/watch?v=R2qxwiLoXTM

Steven Crowder (n.d.). *Steven Crowder* [YouTube Channel]. YouTube. Retrieved April 26, 2025, from https://www.youtube.com/@StevenCrowder

Storani, S., Falkenberg, M., Quattrociocchi, W., & Cinelli, M. (2025). Relative engagement with sources of climate misinformation is growing across social media platforms. *Scientific Reports*, *15*(1), 18629. https://doi.org/10.1038/s41598-025-03082-9

Sunstein, C. R. (2002). The Law of Group Polarization. *Journal of Political Philosophy*, *10*(2), 175–195. https://doi.org/10.1111/1467-9760.00148

Tannen, D., Hamilton, H. E., & Schiffrin, D. (Eds.). (2015). *The handbook of discourse analysis* (Second edition). Wiley Blackwell.

The Guardian. (2025, May 28). World faces new danger of 'economic denial' in climate fight, Cop30 head says. *The Guardian*. https://www.theguardian.com/environment/2025/may/28/andre-correa-do-lago-cop30-interview-climate-crisis

Theocharis, Y., Cardenal, A., Jin, S., Aalberg, T., Hopmann, D. N., Strömbäck, J., Castro, L., Esser, F., Van Aelst, P., De Vreese, C., Corbu, N., Koc-Michalska, K., Matthes, J., Schemer, C., Sheafer, T., Splendore, S., Stanyer, J., Stępińska, A., & Štětka, V. (2023). Does the platform matter? Social media and COVID-19 conspiracy theory beliefs in 17 countries. *New Media & Society*, *25*(12), 3412–3437. https://doi.org/10.1177/14614448211045666

Thesaurus. (2022, January 26). What Are Ethos, Pathos, & Logos? Examples & How To Use Them. *Thesaurus*. https://www.thesaurus.com/e/writing/ethos-pathos-logos/

Time. (2025, January 10). L.A. Fires Show the Reality of a World with 1.5°C of Warming | TIME. *Time*. https://time.com/7205644/los-angeles-california-fires-climate-change

Tracy, S. J. (2010). Qualitative Quality: Eight "Big-Tent" Criteria for Excellent Qualitative Research. *Qualitative Inquiry*, *16*(10), 837–851. https://doi.org/10.1177/1077800410383121

Trunnell, E. E., & Holt, W. E. (1974). The Concept of Denial or Disavowal. *Journal of the American Psychoanalytic Association*, *22*(4), 769–784. https://doi.org/10.1177/000306517402200403

Tyagi, A., Uyheng, J., & Carley, K. M. (2020). *Affective Polarization in Online Climate Change Discourse on Twitter* (No. arXiv:2008.13051). arXiv. https://doi.org/10.48550/arXiv.2008.13051

Umweltbundesamt. (2023, May 31). Gesellschaftliche Spaltung als Herausforderung für Umweltpolitik | Umweltbundesamt. *Umweltbundesamt*. https://www.umweltbundesamt.de/gesellschaftliche-spaltung-als-herausforderung-fuer

United Nations. (2024, December 29). Causes and Effects of Climate Change | United Nations. *United Nations*. https://www.un.org/en/climatechange/science/causes-effects-climate-change

Universiteit van Amsterdam. (2024, April 11). Dancing with data: Understanding the dynamics of political microtargeting—Universiteit van Amsterdam. *Universiteit van Amsterdam*. https://www.uva.nl/shared-content/uva/en/news/news/2024/04/dancing-with-data-understanding-the-dynamics-of-political-microtargeting.html?cb

Van Rensburg, W. (2015). Climate Change Scepticism: A Conceptual Re-Evaluation. *Sage Open*, *5*(2), 2158244015579723. https://doi.org/10.1177/2158244015579723

Van Rensburg, W., & Head, B. W. (2017). Climate Change Scepticism: Reconsidering How to Respond to Core Criticisms of Climate Science and Policy. *Sage Open*, *7*(4), 2158244017748983. https://doi.org/10.1177/2158244017748983

Whitmarsh, L. (2011). Scepticism and uncertainty about climate change: Dimensions, determinants and change over time. *Global Environmental Change*, *21*(2), 690–700. https://doi.org/10.1016/j.gloenvcha.2011.01.016

Wróbel, S. (2015). *Logos, Ethos, Pathos. Classical Rhetoric Revisited*.

Yale Climate Connections. (2025, April 21). Eight of the top 10 online shows are spreading climate misinformation » Yale Climate Connections. *Yale Climate Connections*. https://yaleclimateconnections.org/2025/04/eight-of-the-top-10-online-shows-are-spreading-climate-misinformation

Yan, P., Schroeder, R., & Stier, S. (2022). Is there a link between climate change scepticism and populism? An analysis of web tracking and survey data from Europe and the US. *Information, Communication & Society*, *25*(10), 1400–1439. https://doi.org/10.1080/1369118X.2020.1864005

Yuan, S., & Lu, H. (2022). Examining a conceptual framework of aggressive and humorous styles in science YouTube videos about climate change and vaccination. *Public Understanding of Science*, *31*(7), 921–939. https://doi.org/10.1177/09636625221091490

Zhou, J. (2016). Boomerangs versus Javelins: How Polarization Constrains Communication on Climate Change. *Environmental Politics*, *25*(5), 788–811. https://doi.org/10.1080/09644016.2016.1166602

Appendix A – Codebook

Code	Code Group 1	Code Group 2	Code Group 3	Code Group 4
1Ethos_Climate Change Awareness & Impact	1_Ethos			
1Ethos_Economic & Social Concerns	1_Ethos			
1Ethos_Environmental Concerns & Policy	1_Ethos			
1Ethos_Media Influence/Alarmism	1_Ethos			
1Ethos_Political & Power Dynamics	1_Ethos			
1Ethos_Presence of Graphic/Logos	1_Ethos			
1Ethos_Reliability/Trustworthiness	1_Ethos			
1Ethos_Serious/Critical tone	1_Ethos			
1Ethos_Skepticism of Scientists/Authorities	1_Ethos			
2Pathos_Body/face expression		2_Pathos		
2Pathos_Editing techniques		2_Pathos		
2Pathos_Emotional Expression & Frustration		2_Pathos		
2Pathos_Empathy & Social Justice		2_Pathos		
2Pathos_Humor & Satire		2_Pathos		
2Pathos_Humourous behaviour		2_Pathos		
2Pathos_Raising Voice		2_Pathos		
2Pathos_Sound design		2_Pathos		

3Logos_Critical Thinking & Reasoning			3_Logos	
3Logos_Energy Transition & Innovation			3_Logos	
3Logos_Insert text			3_Logos	
3Logos_Inserting video/image/news report			3_Logos	
3Logos_Science & Data Analysis			3_Logos	
3Logos_Show statistics/article			3_Logos	
4Viewer Addressing_Looking in camera				4_Viewer engagement
4Viewer Addressing_Urgency & Call to Action				4_Viewer engagement

Appendix B – Dataset

Channel	Title	Link	Length (min)	Views (05.05.2025)	Posted on
Steven Crowder	8 Climate Change Predictions PROVEN 100% False	https://www.youtube.com/watch?v=31nfDQ60i-I	6,5	330.000	28.01.2017
Steven Crowder	EXPLAINED: The Paris Climate Agreement Scam! | Louder With Crowder	https://www.youtube.com/watch?v=cVOOMyYde0c	10	500.000	01.06.2017
Steven Crowder	Debunking Climate Change Myths | Louder With Crowder	https://www.youtube.com/watch?v=R2qxwiLoXTM	12	130.000	29.07.2022
Steven Crowder	Destroy "Clean Energy" Plan? YES, PLEASE! | Louder With Crowder	https://www.youtube.com/watch?v=M9emMtMU6lc	12,5	716.000	01.04.2017
John Stossel	Climate Change Myths Part 1: Polar Bears, Arctic Ice, and Food Shortages	https://www.youtube.com/watch?v=V4fChyXPgj0	7,5	360.000	15.04.2025
John Stossel	Climate Change Myths Part 2: Wildfires, Drought, Rising Sea Level, and Coral Reefs	https://www.youtube.com/watch?v=GctDsMw8N4Y	6,5	330.000	22.04.2025
John Stossel	The Truth About Climate Change	https://www.youtube.com/watch?v=m3hHi4sylxE	6,5	2.500.000	02.01.2017
John Stossel	The Paris Climate Fraud	https://www.youtube.com/watch?v=cVkAsPizAbU	4,5	1.300.000	19.03.2018
John Stossel	The Climate Censors	https://www.youtube.com/watch?v=_yn1MQjF5gs	7,5	500.000	08.06.2021
John Stossel	The Climate Hustle	https://www.youtube.com/watch?v=ZBGCjqUdQJQ	4,5	400.000	17.11.2020
John Stossel	Hurricanes NOT caused by "manmade climate change"	https://www.youtube.com/watch?v=h7_yMuy2ip4	4,5	150.000	09.09.2017
John Stossel	The Renewable Energy Fail	https://www.youtube.com/watch?v=QK7EatMyTGQ	6,5	220.000	22.03.2022
PragerU	...It Must Be Climate Change! | 5-Minute Videos | PragerU	https://www.youtube.com/watch?v=Jz7a_Gr-ggY	6	930.000	20.01.2025
PragerU	Is There Really a Climate Emergency? | 5 Minute Video	https://www.youtube.com/watch?v=P19ywkobLX8	5,5	950.000	25.10.2021
PragerU	Is Climate Change an Existential Threat? | Short Clips	https://www.youtube.com/watch?v=f5nUO7EYnUk	7	280.000	18.10.2019
PragerU	Climate Alarmism Isn't Rational | Short Clips	https://www.youtube.com/watch?v=tUR0LrSadkg	4	640.000	06.09.2019
PragerU	Conservatives Are the Real Environmentalists | 5 Minute Video	https://www.youtube.com/watch?v=RfECzdHM-Mg	5,5	2.400.000	30.03.2020
PragerU	Fossil Fuels: The Greenest Energy | 5 Minute Video	https://www.youtube.com/watch?v=BJWq1FeGpCw	5	890.000	21.04.2016
PragerU	Do We Have to Destroy the Earth to Save It? | 5 Minute Video	https://www.youtube.com/watch?v=Rc5AlFo3zTk	5	4.500.000	10.08.2020
Heartland Institute	Climate Models Say One Thing, Real Temperatures Say Another	https://www.youtube.com/watch?v=Xa665wL7Tcg	2,5	20.000	25.02.2025
Heartland Institute	The Impact of Climate Change on Wildfires	https://www.youtube.com/watch?v=MeQwLKOKGxg	2	5.000	24.07.2024
Heartland Institute	Why Experts Are Rethinking the 1.5°C Climate Tipping Point	https://www.youtube.com/watch?v=iIXel695TmY	3	8.000	10.03.2025
Heartland Institute	The Science They Won't Tell You: CO2's Warming Limit	https://www.youtube.com/watch?v=jV2KozyIusg	2,5	85.000	17.03.2025
Heartland Institute	No, Your Cheeseburger Isn't Causing Climate Change	https://www.youtube.com/watch?v=lPoyijKI1Z8	2	6.000	03.03.2025
Heartland Institute	Why Winter Extremes Aren't Proof of a Climate Crisis	https://www.youtube.com/watch?v=ru3NvQ1I_Lk	2	10.000	03.02.2025
Heartland Institute	Climate Activism, Not Climate Change, Biggest Threat to National Security	https://www.youtube.com/watch?v=qQILh_yDutI	3	4.000	05.08.2024
Heartland Institute	Subsidies Received: Fossil Fuels vs. Renewables	https://www.youtube.com/watch?v=5tY1NObQ2Ug	2	8.000	22.07.2024

Heartland Institute	Media Lying About Heatwaves	https://www.youtube.com/watch?v=GpdkLQqmrEk	2,5	24.000	08.07.2024
Heartland Institute	GRRR! Polar Bear Populations Increasing, Not Threatened by Global Warming	https://www.youtube.com/watch?v=c6l926DlGRs	2	12.000	24.06.2024
Heartland Institute	Crops LOVE Global Warming	https://www.youtube.com/watch?v=T0CUu5YFAEQ	3	6.000	12.06.2024
Heartland Institute	Sea Level Rise: A Measly 1.2 Inches Every Decade	https://www.youtube.com/watch?v=9omc3F5ILH8	2,5	32.000	10.06.2024
Heartland Institute	Is Global Warming Making Flooding Worse?	https://www.youtube.com/watch?v=Tz-YCpCz20U	3	4.000	05.06.2024
Heartland Institute	Extreme Weather Deaths and Climate Change - A Data-Driven Analysis	https://www.youtube.com/watch?v=VI0DWSc4tg8	2,5	3.000	29.05.2024
Heartland Institute	Debunking Hurricane Myths: Climate Change's Role Explained	https://www.youtube.com/watch?v=AZi8sSIWInA	2,5	7.000	28.05.2024
Heartland Institute	The Planet is Getting Greener, and That's a Good Thing	https://www.youtube.com/watch?v=dGZ3zylUG2k	2,5	35.000	22.05.2024
Heartland Institute	Rethinking the Climate Change Consensus	https://www.youtube.com/watch?v=jGGc4aGI4KY	3	43.000	13.05.2024

Appendix C – Usage of AI

I hereby confirm that two GenAI tools were used, namely DeepL and ChatGPT. DeepL was used for translating words from my mother language (German) into English, as it helped me to grasp suitable words better. As for ChatGPT, I used the tool for researching additional academic literature, as well as occasionally getting ideas on how to improve the flow of reading. Never have I ever used a text written by ChatGPT in my thesis. Below are some of my prompts used in ChatGPT.

Prompts used to find literature

- "What are some of the recent academic sources on climate misinformation?"
- "What are some of the recent academic sources on climate misinformation on YouTube?"
- "What are recent papers or reports that analyze climate change denial discourse online?"
- "What studies analyzed rhetorical strategies on YouTube?"
- "What literature includes the original work of Aristotle on persuasion?"

Prompts used to improve flow of reading

- "How can I increase the readability of this section? Give ideas and mark them bold."
- "How can I say this in a simpler and shorter way?"
- "How could I increase the impact of this statement?

Declaration Page: Use of Generative AI Tools in Thesis

Student Information
Name: Michael Reissner
Student ID: 667427
Course Name: Master Thesis CM5050
Supervisor Name: Olivier Nyirubugara
Date: 24.06.2025

Declaration:

Acknowledgment of Generative AI Tools
I acknowledge that I am aware of the existence and functionality of generative artificial intelligence (AI) tools, which are capable of producing content such as text, images, and other creative works autonomously.

GenAI use would include, but not limited to:

- Generated content (e.g., ChatGPT, Quillbot) limited strictly to content that is not assessed (e.g., thesis title).
- Grammar and spelling corrections (e.g., Grammarly)
- Language translation (e.g., DeepL), without generative AI alterations/improvements.
- Research task assistance (e.g., finding survey scales, qualitative coding verification, debugging code)
- Using GenAI as a search engine tool to find academic articles or books (e.g.,

☒ I declare that I have used generative AI tools, specifically DeepL and ChatGPT, in the process of creating parts or components of my thesis. The purpose of using these tools was to aid in generating content or assisting with specific aspects of thesis work.

Extent of AI Usage
☒ I confirm that while I utilized generative AI tools to aid in content creation, the majority of the intellectual effort, creative input, and decision-making involved in completing the thesis were undertaken by me. I have enclosed the prompts/logging of the GenAI tool use in an appendix.

Ethical and Academic Integrity
☒ I understand the ethical implications and academic integrity concerns related to the use of AI tools in coursework. I assure that the AI-generated content was used responsibly, and any content derived from these tools has been appropriately cited and attributed according to the guidelines provided by the instructor and the course. I have taken necessary steps to distinguish between my original work and the AI-

☐ I declare that I have NOT used any generative AI tools and that the assignment concerned is my original work.

Signature: [digital signature]
Date of Signature: [Date of Submission]

generated contributions. Any direct quotations, paraphrased content, or other forms of AI-generated material have been properly referenced in accordance with academic conventions.

By signing this declaration, I affirm that this declaration is accurate and truthful. I take full responsibility for the integrity of my assignment and am prepared to discuss and explain the role of generative AI tools in my creative process if required by the instructor or the Examination Board. I further affirm that I have used generative AI tools in accordance with ethical standards and academic integrity expectations.

Signature:

Date of Signature:
24.06.2025