

Have you already been influenced?

The extent to which news media repertoires and social media influencer's commentary shape trust in climate change reporting

Student Name: Stephanie Angela

Student Number: 521835

Supervisor: Prof. dr. Marc Verbood

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

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ABSTRACT

In today's news media landscape, individuals are increasingly combining traditional and digital media to create personalized news diets, raising concerns about unequal exposure to reliable information. A growing concern is the declining public trust in news media, particularly in relation to climate change. While the topic remains highly relevant in public debate, trust in its coverage varies considerably. This often depends on the format in which the news is presented, the source delivering it, and how credible that source is perceived to be. From this perspective, this study examines the impact of different news media repertoires, traditional and cross-media, on trust in news media reporting about climate change. In addition, it explores whether exposure to social media influencer's (SMI) commentary moderates this relationship. The main research question is: *"To what extent do traditional and cross-media news repertoires influence trust in climate change news among news consumers?"*. The sub-question is: *"To what extent does exposure to SMI's commentary moderate these relationships?"*. To answer these questions, a quantitative survey experiment was conducted ($N = 101$), where participants were randomly assigned to read a climate change news article from either a traditional or cross-media news source, followed by exposure to an SMI commentary (in the experimental groups). Trust in climate change news media was measured across three dimensions: trust in media type, trust in news actors, and trust in news content. Media repertoire usage was operationalized through adapted scales from previous studies, and participants were grouped based on their dominant media consumption patterns. Hypothesis testing was performed using a simple linear regression, independent samples t-tests, and multiple linear regression with an interaction term to assess moderation effects. The findings show that both traditional and cross-media news users report a positive impact on trust in news media reporting about climate change, with a significantly higher level of trust among traditional news users compared to the cross-media news users. No significant moderation effect was found for SMI commentary, suggesting that exposure to SMI commentary does not alter trust in news media reporting about climate change. Control variables such as age, gender, interest in climate change, nationality, and employment status were also found to be non-significant. These results highlight the importance of news media consumption patterns in shaping trust, while suggesting a limited role for SMIs in this context.

KEYWORDS: *News, News repertoire, traditional news, social media influencer, climate change*

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1. Introduction

Today's media environment is characterized by an overwhelming flow of information, encouraging people to combine traditional and digital sources to stay informed. While access to news has expanded, particularly through social media platforms, this increased availability has also raised concerns about uneven distribution of reliable or diverse information among different groups of news consumers. These shifts in how people consume news underline the importance of studying media repertoires, as they provide meaningful insight into how individuals engage with and interpret the news (Geers, 2020, p. 333-334). As such, there is a growing need to explore how different types of news sources influence public trust in news. This study contributes to that effort by examining whether the format and origin of news, particularly through traditional outlets versus cross-media news, influence trust in climate change news. Additionally, it examines whether exposure to social media influencers (SMI) moderates this relationship, potentially influencing trust levels among both traditional and cross-media news consumers. Given the broader societal concern over declining news trust and the increasing reliance on alternative and hybrid media sources, this study contributes to both the academic and practical relevance. Therefore, this research not only engages with a contemporary issue but also addresses the intersection between news media repertoires and the emerging role of SMIs in the climate change news landscape.

In light of this, the central research question driving this research is: *"To what extent do traditional and cross-media news repertoires influence trust in climate change news among news consumers?"* In addition, it examines the moderating role of influencers through the sub-question: *"To what extent does exposure to social media influencer's commentary moderate these relationships?"* In doing so, the study addresses a gap in the literature by linking these news consumption patterns to the emerging influence of informal news intermediaries.

Understanding public trust in news is more crucial than ever in a high-choice and rapidly evolving media environment. From a scientific perspective, this study aims to contribute to the literature on news media repertoires by examining the relationship between media repertoires and public trust in climate change news. News media repertoires have become a critical framework for analyzing how people engage with news across various platforms, mainly as social media introduce new possibilities for the dissemination and consumption of information (Mourão et al., 2018, p. 1945; Verboord, 2023, p. 246). Despite previous research exploring the impact of media repertoires on political trust and engagement (Edgerly et al., 2017, p. 208; Strömbäck et al., 2017, p. 425), it is notable that relatively few

studies have examined how these repertoires intersect with trust in news itself (Strömbäck et al., 2020, p. 139). Furthermore, while trust in news media is often viewed as a static concept, recent findings suggest it shifts depending on the context. For example, insights from Reuters Institute's 2024 Digital News Report reveal that while overall trust in news remains at 40%, this figure is four percentage points lower than during the peak of the COVID-19 pandemic. Notably, countries like Finland maintain high trust levels at 69%, whereas Greece and Hungary report the lowest (23%), highlighting the dynamic influence of national contexts on news media trust (Szandi, 2024). Considering these circumstances, the role of social media influencers (SMIs) remains overlooked in studies of news trust. Most existing research on influencers focuses on their impact on consumer behavior or branding (Flamino et al., 2023, p. 906; Schouten et al. 2019, p. 260; Yuan & Lou, 2020; p. 134-135), yet as the lines between opinion and information continue to blur, influencers are increasingly functioning as informal news intermediaries or opinion leaders. This makes their role particularly relevant to investigate within the context of a highly contemporary topic such as climate change. Due to the abovementioned matters, this study addresses the literature gap by investigating the extent to which exposure to SMIs could moderate trust in climate change news across traditional and cross-media news consumers.

From a societal standpoint, the relevance is just as substantial. With trust in traditional news media under pressure, especially among younger audiences, people are increasingly turning to alternative sources, including influencers, for news and interpretation (Elvestad et al., 2018, p. 218). For instance, in the United States, over half of news consumers now access news through social media, while engagement with newspapers and television news continues to decline (Gendler, 2024). This shift coincides with growing signs of news fatigue and disengagement, as fewer people report following the news closely compared to previous years (Gendler, 2024). These trends underscore a broader shift in how audiences engage with news and where they seek it. However, reliance on social media as news sources raises concerns about ideological polarization and echo chambers (Flamino et al., 2023, p. 912), particularly in highly politicized digital spaces. For instance, Flamino et al. (2023) found that during recent U.S. elections, influencers played a central role in amplifying partisan content, often within like-minded or ideologically homogenous communities on Twitter (p. 908). Similarly, Elvestad et al. (2018) note that distrust in traditional media can drive audiences toward foreign or alternative sources, a pattern especially pronounced in lower-trust environments (p. 219). Moreover, recent trends in news engagement patterns point to the growing importance of SMIs. A 2024 Pew Research study reported that 21% of U.S. adults include content from

SMIs as a regular part of their news diet, a figure that increases to 37% among adults aged 18 to 29 (Stocking et al., 2024). These audiences often consume a mix of factual information, opinions, humor, and breaking news from influencers, blurring the line between entertainment and reliable information. This emphasizes the urgency of better understanding how these hybrid forms of news delivery influence not just consumption but trust in news itself. By situating SMIs within the broader framework of news media repertoires and examining their potential moderating role, this study offers both theoretical and practical insight. The findings could inform digital media literacy initiatives, public communication strategies, and platform regulation, particularly in efforts to build trust and resilience in the face of misinformation.

This study will use a quantitative survey experiment to answer the research questions. News repertoires will be measured by asking participants to indicate which traditional and/or cross-media news sources they regularly use. Trust will be measured across three dimensions: trust in the type of media (traditional and cross-media news repertoires), trust in news media actors, and trust in media content. Participants will be randomly assigned to read a climate change news article from either a legacy media outlet or from a non-mainstream news source. Both news articles cover the exact same topic about climate change. Subsequently, all participants will be exposed to an SMI's commentary on this news content. In doing so, the study aims to determine whether and to what extent audiences' trust in climate change news is influenced by their media repertoires within today's mixed media environment and to what extent SMI have an influence in this trust level.

2. Theoretical framework

This study explores the shifting dynamics of news consumption, focusing on the role of influencers as potential opinion leaders in the context of climate change news. Building on the concept of news repertoires from previous studies, it differentiates between traditional repertoires and cross-media repertoires. The former relies on mainstream media, such as television, newspapers, and radio, while the latter integrates online platforms as well, such as social media (Strömbäck et al., 2017, p. 145; Verboord, 2023, p. 251). To ensure the feasibility of this study, this research centers on climate change news as it is a global phenomenon with both positive and negative narratives, offering universal relevance through a broad public discourse. This will provide the framework to examine how audiences engage with news. Finally, the study investigates how influencers, as potential non-traditional opinion leaders, contribute to shaping the public rhetoric on climate change, presenting insights into their impact within the evolving news media repertoires.

2.1 News media repertoires

The news media landscape is defined by an overwhelming abundance of information. Digitalization has not only increased the availability of news sources but has also given individuals unprecedented control over their own timing, place, and manner of news consumption (Swart et al., 2016, p. 4). Prior studies indicate that audiences are now able to tailor their own paths across various media platforms by integrating diverse news media sources to align with their individual preferences and informational needs (Hasebrink et al., 2013, p. 768 ; Swart et al., 2016, p. 3). These developments make the repertoires approach not only relevant but necessary for understanding how individuals navigate the contemporary news ecosystem (Picone & Vandenplas, 2021, p. 9; Swart et al., 2016, p. 4). This approach entails examining the ways individuals integrate various media technologies, brands, discourses, and items into their daily routines to meet their needs for information, entertainment, forming opinions, social interaction, and engagement. In essence, it explores the unique combinations of news sources and platforms that people construct from the options available to them (Hasebrink et al., 2013, p. 768). Subsequently, news media repertoires refer to the diverse and unique combinations of media sources and platforms that individuals rely on to consume news (Verboord, 2023, p. 244; Vulpius et al., 2023, p. 2). These repertoires can include a mix of traditional media outlets, such as television, radio, and newspapers, alongside digital platforms like news websites, apps, and social media networks (Strömbäck et al., 2017, p. 415). The choices individuals make within their news repertoire are influenced

by a multitude of factors, such as individual preferences, social context, and behavioral considerations. These factors encompass daily routines, convenience, topical interests, and trust in specific sources, as well as fundamental characteristics such as age, educational level, and cultural background (Picone & Vandenplas, 2021, p. 91; Sormanen et al., 2022, p. 239). Subsequently, these elements provide valuable insights into how news consumers navigate the increasingly complex media landscape to stay informed in their daily lives (Hasebrink et al., 2013, p. 771). For this study, examining traditional and cross-media news repertoires offers valuable insights into the interaction and competition between various forms of media in a rapidly changing landscape (Hasebrink et al., 2013, p. 770) Furthermore, exploring these two types of news repertoires is particularly interesting because they reflect broader generational, cultural, and technological transformations in news engagement, such as trust in institutions, media literacy levels, and social inequality patterns (Verboord, 2023, p. 244). The following sections will examine news repertoires in more detail, highlighting their defining characteristics and motivations for employing each news media repertoire.

2.1.2 Traditional News Repertoires

To understand the relevance and transformation of traditional news repertoires, it is essential to explore the defining characteristics, historical context, and position of the traditional news repertoires in the modern world.

Conceptualizing Traditional News Repertoires

Traditional news media refers to established forms of mass communication that predate the digital revolution, such as newspapers, television, and radio (Fotopoulos, 2023, p.278). These platforms have long been central to informing the public, offering curated content with structured narratives. Consequently, its strength lies in its structured formats, editorial standards, and professional journalism, offering audiences reliable, curated insights into the world (Anyanwu et al., 2024, p. 456; Vulpius, 2023, p. 12). Traditional news media's structured and centralized nature was integral to its role in society, setting the stage for its dominance before the digital era. Traditional media news consumers often engage with print editions of local or regional newspapers, listen to news broadcasts on the radio, and watch television programs for current affairs. According to Vulpius et al. (2023, p. 3), traditional news media played a key role in shaping collective societal knowledge, particularly in pre-digital times, by serving as authoritative sources of truth. Thus, this study conceptualizes traditional news repertoires as patterns of engagement with legacy news outlets, such as

newspapers, television, and radio, that are characterized by curated, professionally produced journalism and centralized editorial control, which are historically associated with societal trust and information habits.

Motivations for using traditional news repertoires

People continue to consume traditional news media for a variety of reasons, which can be broadly categorized into internal and external motivations. On an internal level, consuming traditional news is often tied to personal habits and daily routines. For many, consuming traditional news media is part of their lifestyle, by reading the morning paper, listening to the radio during the commute to work, and, in the evening, watching the nightly news (Strömbäck et al., 2017, p. 421). On the other hand, external factors also influence the consumption of traditional news media. These include societal and educational expectations, as well as practical constraints and levels of digital literacy. For instance, because traditional news is often seen as a reliable and high-quality repertoire, individuals may feel a sense of obligation to stay informed through these channels in order to engage with public conversations and meet the expectations of their social circles (Hasebrink & Dörmeyer, 2012, p. 768). For instance, individuals may choose traditional media based on their personal beliefs, preferring news outlets they perceive as socially or intellectually reputable. Furthermore, time limitations due to work, study, or other tasks could encourage individuals to focus on merely the most trusted sources (Hasebrink & Dörmeyer, 2012, p. 771). Finally, digital literacy also plays a role, as individuals with lower digital literacy often depend more heavily on traditional news media, highlighting its importance for specific population segments (Picone & Vandenplas, 2021, p. 99).

2.1.3 Cross-Media News Repertoires

As the media landscape evolves, audiences increasingly engage with news across multiple platforms, blending traditional and digital news sources into a concept known as the cross-media news repertoire.

Conceptualizing cross-media news repertoire

The development of news consumption has closely followed technological advancements, transforming how audiences access and engage with information (Geers, 2020, p. 344). Traditionally, primary news sources encompass newspapers, radio, and television, with each medium serving different needs. Be it scheduled broadcasts for television, in-depth reading for newspapers, or passive listening for radio. However, the emergence of the internet

and mobile technology disrupted this model, introducing digital platforms that changed news consumption habits (Geers, 2020, p. 337). Initially, studies on news consumption saw traditional and digital media as separate concepts, assuming that audiences were replacing one for the other. Over time, however, there was a shift in this research field, and scholars recognized that people were not abandoning one medium for another but instead integrating multiple sources into their routines (Geers, 2020, p. 337). A study by Meijer and Kormelink (2014, p. 664), which compared news usage from 2004–2005 to 2011–2014 among Dutch news consumers, indicated that news consumption had undergone a digital shift rather than a complete replacement of traditional news repertoires, representing a gradual transition rather than an abrupt revolution. Furthermore, this transition is shaped by accessibility, personal preferences, and technological advancements (Meijer & Kormelink, 2014, p. 675). Nowadays, news consumption exists on a spectrum, where many news consumers integrate multiple sources/ media into their routines instead of choosing between the binaries: traditional or digital media. In this study, cross-media news repertoires refer to the patterns of news consumption in which individuals integrate a variety of sources. This includes using mainstream news media and established outlets, such as news from national media institutions, alongside non-mainstream platforms like social media, discussion boards, forums, or podcasts talking about news affairs.

Motivations for using Cross-Media News Repertoires

As such, the concept of cross-media news repertoires refers to the practice of incorporating both traditional and digital sources to access news and information rather than depending exclusively on a single medium for news consumption. Internal factors influencing the adoption of cross-media news repertoires include individuals' preferences and interests in specific topics or news sources, which can shape their political views and personal biases (Geers, 2020, p. 336; Vulpius et al., 2022, p. 3). For example, a person might initially encounter news through social media due to its high accessibility and personalized feeds that reflect their interests. However, for validation or due to higher trust in traditional news media, the same individual might later seek out the same news story in a more institutionalized news outlet like a newspaper (Geers, 2020, p. 333). On the other hand, external factors include the ease of access to news or paywall barriers. Nowadays, news can often be consumed incidentally, with no intention or effort, considering that digital platforms integrate news content into everyday online activities (Geers, 2020, p. 337; Kalogeropoulos et al., 2019, p. 3677). This passive consumption is possible due to the prevalence of digital devices and the

seamless integration of news into media platforms, such as social media or email newsletters, enhancing convenience and speed. In addition, people may resort to cross-media news repertoires because access to legacy or institutionalized news media often requires a paid subscription (Vulpius et al., 2022, p. 9). Finally, friends, family, and professional environments can shape an individual's news choices by endorsing certain sources and normalizing specific ways of consuming news (Kalogeropoulos et al., 2019, p. 3673).

2.2 Defining Trust in News Media

Trust in news is essential in today's high-choice media environment, as numerous factors of trust contribute to how individuals perceive and evaluate news sources. News media trust refers to the relationship between news consumers and the organizations that produce information, where audiences expect the delivered news to be reliable and accurate enough to support informed decision-making in a democracy (Strömbäck et al., 2020, p. 149). According to previous studies, trust can be viewed as a relational construct involving two parties: the trustor (the news consumers/ audience) and the trustee (news providers) (Kohring & Matthes, 2007, p. 238; Prochazka & Schweiger, 2018, p. 27; Strömbäck et al., 2020, p. 141). Initial studies on source credibility in the 1950s emphasized two key traits, expertise and trustworthiness, as central to how individuals evaluate the reliability of a communicator (Strömbäck et al., 2020, p. 141). Fast forward to the 21st century, the concept of trust has evolved into multiple dimensions where the focus shifted from individual communicators to entire news institutions and, ultimately, to the content they produce. In this study, trust in climate change news is conceptualized as a multidimensional construct, encompassing trust in the media type, the news actors, and the news content. While these dimensions are discussed separately to offer conceptual clarity, they are not treated as independent variables (IV) or hypotheses. Instead, they are perceived as three aspects of the central concept: trust in climate change news media. This approach aligns with studies that recognize trust is a layered concept (Kohring & Matthes, 2007, p. 239; Strömbäck et al., 2020, p. 144). As such, the hypotheses presented in this study do not isolate each trust dimension, but reflect their combined influence, which is examined in relation to different media repertoires and influencer exposure. The following paragraphs will elaborate more on these three dimensions of trust in news media.

2.2.1 Trust in News Media Type

Trust in traditional news outlets

While the dominance of traditional news repertoires has decreased due to the rise of digital and social media, many studies have emphasized that traditional news formats continue to play a critical role in informing citizens. This continued relevance is strongly linked to trust, as traditional media are often perceived as more credible and authoritative than digital alternatives (Elvestad et al., 2018, p. 220). For instance, individuals continue to rely on newspapers, radio, and television during significant events, such as elections or crises, for reliable and trustworthy information. This behavior aligns with the term "*intensification*," where trust in established sources increases during critical moments (Vulpius, 2023, p. 12). Moreover, traditional media continues to play an essential role in providing in-depth analysis and investigative journalism, reinforcing its credibility among audiences. Notably, news consumers with lower digital literacy tend to rely on traditional outlets, emphasizing their significant relevance among specific population segments (Verboord, 2023, p. 253). Furthermore, traditional media are often trusted for their established, high-quality journalism, compared to some digital platforms that may be vulnerable to misinformation (Fotopoulos, 2023, p. 284). For instance, Verboord, 2023, p. 255) emphasizes that traditional quality news consumers exhibit higher levels of institutional trust than those focused on digital or social media, reflecting the continued relevance of traditional media in fostering institutional trust. While digital platforms often foster civic participation and immediacy (Anyanwu et al., 2024, p. 465), this engagement does not necessarily correlate with greater trust in news content (Strömbäck et al., 2018, p. 423), as their credibility is frequently contested due to issues of misinformation and selective exposure (Fotopoulos, 2023, p. 284; Anyanwu et al., 2024, p. 459). In contrast, audiences still turn to traditional media to verify the credibility of information, especially when navigating conflicting or ambiguous content encountered through digital channels (Anyanwu et al., 2024, p. 457). This reliance reflects the persistent credibility of legacy news media among news consumers (Fotopoulos, 2023, p. 284). Furthermore, individuals with a more traditional media repertoire have been found to express lower levels of ethnocentrism and greater trust in institutions (Picone & Vandenplas, 2021, p. 100-102). These patterns suggest that traditional news consumers may be more inclined to trust news coverage on complex and politicized issues such as climate change. Thus, despite technological changes, traditional news sources remain essential for disseminating information due to their credibility and established role in society.

Trust in Cross-Media news outlets

Various elements shape the level of trust associated with one's chosen combination of news sources. According to Kalogeropoulos et al. (2019, p. 3682), individuals who rely on a single news source, usually an online platform like social media, tend to have lower trust levels. Not necessarily because online platforms innately weaken trust, but because depending on a single source limits critical comparison (Fletcher, 2017, p. 2). In contrast, studies show that when individuals engage with a mix of mainstream and digital sources, their trust in news tends to be more resilient, as this diversity fosters cross-verification and broader understanding (Fletcher, 2017, p. 4; Kalogeropoulos et al., 2019, p. 3676). This supports the idea that cross-media repertoires, which involve accessing news across multiple platforms, allow users to benefit from the unique affordances of each medium. Vulpius et al. (2023, p. 8) highlight that such affordances significantly shape how new users engage with and trust news content. For example, one participant explained that news on social media, such as on Reddit or Instagram, is considered trustworthy because the platforms enable fact-checking by other users (Vulpius et al., 2023, p. 11). Thus, some users can access sources that might not be available through conventional channels. This suggests that cross-media repertoires do not inherently reduce trust in news. Instead, each platform's specific features can enhance the perceived credibility of the information. Similarly, Cotter and Thorson (2022) challenge the notion that social media simply displaces trust in professional journalism. Based on their findings, young adults in the US experience what is described as "*information cacophony*" (p. 630), which refers to the overwhelming, similar, and emotionally charged media environments on social media platforms, such as Facebook. In this environment, traditional journalistic authority is often decentered, yet users do not become entirely distrustful. Rather, they employ a range of ways to determine the trustworthiness of the news, such as through relational trust, emotional resonance, or crowd-sourced validation (Cotter & Thorson, 2022, p. 640). These findings suggest that platform-specific affordances can reshape rather than erode trust in information, a tool to help news consumers navigate and determine the credibility of the news.

Numerous studies of the literature indicate that cross-media news consumption can build rather than reduce trust in news, especially when users engage critically and socially with platform-specific affordances. As such, cross-media news consumers are expected to have a high level of trust in news.

2.2.2 Trust in News Media Actors

While trust in news media is often discussed at the level of the news outlet or format, it is equally important to examine trust at the level of news actors. This distinction is especially relevant in today's high-choice media environment, where professional journalists, political actors, and ordinary social media users can all function as news disseminators. According to Strömbäck et al. (2020, p. 146), much of the existing research on trust in news media was conducted prior to significant changes in the media landscape, such as the rise of social media, the growing presence of partisan and alternative news sources, and an increase in public criticism of traditional journalism. Social media, in particular, have introduced new layers to how news spreads, where not only professional journalists but also ordinary users share both conventional and alternative news. In this environment, trust in the person who shares the content, whether a professional journalist or a social media figure, can shape how credible both the information and the news itself are perceived to be. Recent studies show that rather than challenging the legitimacy of media institutions, political and partisan figures increasingly target individual journalists and commentators by framing them as biased or untrustworthy (Strömbäck et al., 2020, p. 149). This shift reflects a broader trend where people place less importance on institutional reputation and more on the perceived accuracy and integrity of the individual delivering the news (Strömbäck et al., 2020, p. 144). This pattern is also visible on social media, where influencers with no ties to professional journalism still gain traction and trust from audiences, particularly when their messaging aligns with existing beliefs or political identities (Flamino et al., 2023, p. 909). Furthermore, Kalogeropoulos et al. (2019, p. 3) highlight that digital and non-mainstream platforms add more dynamics to how trust in news actors is formed, by offering new opportunities for engagement while also introducing risks such as misinformation. For instance, although digital journalism fosters closer and more transparent relationships between journalists and their audiences (Kalogeropoulos et al., 2019, p. 3), events such as the 2016 U.S. presidential election have raised concerns about the role of platforms like Twitter and Facebook in amplifying false or polarizing content (Flamino et al., 2023, p. 903). Lastly, the platform through which news is encountered also shapes trust in those delivering it. Kalogeropoulos et al. (2019, p. 14) found that accessing news through social media is significantly associated with reduced levels of trust, suggesting that people who share news on these platforms, such as influencers, may be seen as less trustworthy than traditional journalists operating within legacy media environments.

Given these developments, it is relevant to consider whether trust in news actors differs across news repertoires. Traditional media consumers may exhibit higher trust in professional journalists due to the verified and professional background of these news deliverers. Cross-media news consumers, who combine traditional and digital sources, might show more openness toward influencers and non-traditional actors as credible news disseminators due to personal resonance, critical engagement, or social interaction. Therefore, while both traditional and cross-media news consumers exhibit high levels of trust in news actors, the reasons behind this trust likely differ depending on the type of news media they use.

2.2.3. Trust in News Media Content

Trust in news content refers to the extent to which audiences perceive the news they consume as aligning with core journalistic standards, such as accuracy, fairness, and balance in covering a particular topic, regardless of who delivers the news or through which medium it is shared (Strömbäck et al., 2020, p. 150). This form of trust is crucial because it shapes the evaluations made by news consumers regarding the quality and integrity of journalistic news. Kohring and Matthes (2007, p. 239) argue that trust in news content is shaped by audiences' belief in the selectivity and accuracy of the journalistic process, including dimensions such as factual correctness, contextual adequacy, and balanced assessments. This aligns with the findings from Daniller et al. (2017, p. 81), as they argue that individuals are more likely to trust specific content from familiar sources, rather than generic media labels, suggesting that content-based evaluations are more concrete and favorable. Moreover, trust in content is often topic-based, meaning that audiences may differentiate between how trustworthy they find coverage of one issue compared to another. According to Elvestad et al. (2018, pp. 219-222), audience trust varies depending on the issue being covered, with higher confidence in news about societal topics and lower trust in coverage of more polarized topics, such as immigration and politics. Additionally, their study found that news consumers report higher trust levels in traditional, mainstream news media, particularly public service broadcasters, due to their established reputations for neutrality and accountability.

These findings indicate that trust in news content is shaped not only by perceptions of accuracy and balance but also by the topic and platform through which it is delivered. Traditional media outlets, particularly legacy news sources, are generally associated with higher perceived content quality (Elvestad et al., 2018, p. 222), and traditional news consumers may exhibit high trust in news for this reason. In contrast, cross-media users engage with a broader mix of platforms and assess credibility more selectively. While their

trust may vary per source, this does not imply lower trust, but rather a more nuanced evaluation shaped by their news media repertoires. As such, both traditional and cross-media consumers are expected to have high levels of trust in news content.

2.3 Social Media Influencers (SMI)

SMIs have emerged as prominent figures whose role in shaping news consumption and interpretation raises important questions. Consequently, it is essential to examine the definition of SMIs and assess their impact on the contemporary news landscape. The following sections will explore and contextualize the role of SMI within the broader news environment. First, the concept and definition of SMIs will be outlined, along with a discussion of their emergence in the digital media landscape. This will be followed by an examination of how SMIs can be understood as modern-day opinion leaders, drawing from existing studies. The third section will delve into how this opinion leadership manifests within the news landscape, including relevant examples and the potential impact of SMIs on public discourse. Lastly, the final section will address the moderation effect in different types of news media repertoires and the levels of trust audiences place in them, thus highlighting their significance in shaping news consumption patterns today.

2.3.1 The emergence and definition of SMI

SMIs are individuals who have gathered a substantial social media following by creating and sharing content in specific areas, such as beauty, fashion, fitness, travel, food, etc. (Ki et al., 2020, p. 6). They usually present themselves as accessible, ordinary figures who happen to be experts or enthusiasts in a specific niche. They actively engage with their audience through frequent posts, comments, and replies, enhancing their relatable appeal (Schouten et al., 2019, p. 261). Unlike traditional celebrities, whose fame typically stems from widely recognized talents in music, acting, or sports, SMIs can gain prominence simply by being accessible and authentic, with each influencer standing out due to unique traits and personal identity (Schouten et al., 2019, p. 262). As a result, audiences may see them almost as equals rather than distant figures. This perceived closeness or similarity between influencer and their followers is a key element in how influencers are viewed and how persuasive they can be (Yuan & Lou, 2020, p. 135). Building on this, Wasike (2023) shows that the influence of SMIs has expanded beyond consumer behavior. Many influencers also operate in political environments, where their personal branding and direct communication styles create and shape trust and engagement in ways that traditional institutions struggle to match (p. 3111).

This shift highlights the versatility of SMIs, which is their perceived authenticity and accessibility that allow them to act as powerful intermediaries not only for brands but also for public discourse (Wasike, 2023, p. 3112). This sense of closeness and accessibility has not only made SMIs attractive brand ambassadors, but also increasingly influential in shaping opinions on social and political issues, blurring the lines between personal, commercial, and political content (Ki et al., 2020, p. 3-4; Schouten et al., 2019, p. 275-276; Wasike, 2023, p. 3112).

2.3.2 SMI as modern opinion leaders in contemporary news landscapes

To understand how social media influencers have emerged as modern opinion leaders, it is first necessary to grasp what constitutes an opinion leader. Traditionally, opinion leaders are individuals whose established expertise, charisma, or formal credentials enable them to shape public views, as seen in figures like politicians or celebrities (Ki et al., 2020, p. 260). Nowadays, SMIs align closely with the traditional definition of opinion leaders given their influence on audience attitudes and beliefs (Enke & Borchers, 2019, p. 265). Unlike conventional figures who depend on hierarchical credentials, SMIs build authority through direct engagement and the formation of parasocial relationships that resemble friendship-like bonds, even though these relationships remain one-sided (Yuan & Lou, 2020, p. 134). Recent research further indicates this evolving dynamic by illustrating how influencers, specifically those engaged in political discourse, can strengthen followers' trust and interest by fostering a sense of relatability and emotional closeness, rather than relying on institutional status (Wasike, 2023, p. 3111). Their capacity to personalize content and engage audiences authentically contributes to their growing authority as modern opinion leaders. In addition, this connection is further supported by high-quality communication that provides procedural fairness, allowing followers to share their views, and interpersonal fairness, which ensures respectful treatment and reinforces a sense of value among the followers (Yuan & Lou, 2020, p. 136). Although these bonds are not reciprocated, they foster an intimacy that significantly influences consumer behavior in social media environments. Wasike (2023) also notes that this influence extends beyond lifestyle or consumption patterns. When SMIs produce political content, they can enhance a sense of political empowerment and interest in civic causes among followers, particularly younger audiences, by making complex topics more accessible and personally relevant (p. 3112). By consistently interacting within their specific niches and delivering authentic and engaging content, SMIs effectively satisfy their followers' emotional and informational needs (Ki et al., 2020, p. 260). In doing so, they bridge the gap between

traditional authority and genuine personal engagement, thereby solidifying their position as contemporary opinion leaders

In the modern news media environment, younger users often discover news incidentally as they scroll through their feeds, often shared or contextualized by influencers rather than traditional news outlets (Enke & Borchers, 2019, p. 265; Yuan & Lou, 2020, p. 135). This form of incidental news exposure is part of the cross-media news repertoires, where news is filtered and reshaped by SMIs' interpretations. Their commentary, whether through posts, videos, or comments, adds an emotional and relational frame to factual content (Bergström & Belfrage, 2018, p. 589; Flamino et al., 2023, p. 907). This has important implications for news trust, as it creates a more dynamic and decentralized news cycle. For instance, on platforms like X (formerly Twitter), SMIs have been central to spreading both news and political messaging, often reinforcing echo chambers and ideological homogeneity (Flamino et al., 2023, pp. 911–912). Because of their perceived relatability, followers may place greater trust in an influencer's framing than in the original journalistic source, especially among younger, cross-media consumers. Therefore, SMIs may not only function as opinion leaders but also as moderators of trust in news, depending on the user's news media repertoire. While traditional news consumers might experience decreased trust when confronted with informal commentary, cross-media consumers, who are more used to hybrid news formats, may experience reinforcement in their trust levels of news.

2.4 Climate change news as context

Among the many issues circulating in today's news environment, climate change stands out as a topic that consistently draws attention across media platforms and over time. Unlike many issues that fade in and out of media attention, climate change has maintained a steady prominence over the past three decades, driven by ongoing developments such as global policy negotiations, scientific findings, and increasingly visible climate disasters (Meier & Eskjær, 2024, p. 1). The ongoing importance of climate change makes it a suitable topic for examining how various news consumption habits, especially traditional and cross-media news repertoires, are linked to public trust in news media reporting about climate change. In addition, its global relevance and social impact have led to a wide range of perspectives that influence how people perceive the issue. These narratives often present conflicting viewpoints, shaping what audiences consider credible and trustworthy when it comes to climate-related information (Bohr, 2020, p. 3). At the same time, it has become a central concern in sustainability communication and accountability efforts, with institutions

and corporations expected to report transparently on climate-related actions and impacts (Gulluscio et al., 2020, p. 2). This makes climate change not only useful for studying trust in news content, but also relevant for understanding how people view authority and expertise, especially now that traditional media share a space with influencers and other new types of content creators online. Given these multifaceted dynamics, climate change offers a relevant backdrop for exploring the extent to which media repertoires and social media influencers collectively shape trust in news.

2.5 Main Effect hypotheses

The literature review suggests that trust in news is shaped not only by the specific media channel but also by the broader pattern of news consumption, referred to as news media repertoires. Traditional news consumers, who rely mainly on legacy media such as television, newspapers, and radio, are often guided by institutional trust and perceptions of professional journalistic standards. These established norms contribute to a sense of reliability and credibility in climate-related coverage. Cross-media news consumers, on the other hand, construct more diverse repertoires by integrating both traditional and digital platforms, including social media. Although they operate in a more dynamic media environment, existing research indicates that cross-media users may still develop high levels of trust in news when they engage critically and socially with platform-specific features such as comment sections, peer-to-peer fact-checking, and recommendation algorithms.

Based on these insights, this study expects that both traditional and cross-media news repertoires will have a positive influence on trust in news media reporting about climate change. However, it is expected that cross-media news consumers will have a higher level of trust in news media reporting about climate change news affairs compared to traditional news consumers. The trust in climate change news will be associated with the combination of perceptions towards trust in news media type, news actors, and trust in the news content. The following hypotheses are then proposed:

H1: Traditional news repertoires have a positive impact on the level of trust in news media reporting about climate change news affairs.

H2: Cross-media news repertoires have a positive impact on the level of trust in news media reporting about climate change news affairs.

H3: Individuals with Cross-media news repertoires have a higher level of trust in

news media reporting about climate change news affairs compared to those with traditional news repertoires.

2.6 Moderating effect

While traditional and cross-media news repertoires often shape individuals' trust in news media based on perceived institutional credibility and professional standards, SMIs can moderate this relationship by altering how news is framed and socially reinforced. Functioning as informal intermediaries, SMIs personalize and contextualize news content, especially through emotional framing and audience engagement (Bergström & Belfrage, 2018, pp. 586–588). Their role becomes particularly important when influencers are perceived as more relatable or trustworthy than institutional news outlets, as the SMI's framing can reshape audience judgments about the original news source (Enke & Borchers, 2019, p. 263). This is particularly relevant for news that is encountered incidentally through algorithmic feeds and influencer commentary rather than by active selection and effort. In these cases, the influencer's perceived credibility and relational proximity can either amplify or diminish trust in the news content itself (Yuan & Lou, 2020, p. 134). For traditional news consumers, such commentary may challenge expectations of professionalism and objectivity, potentially reducing trust. For cross-media consumers, however, SMI commentary may complement their hybrid news consumption style, reinforcing trust through personal preferences and interactivities. Therefore, this study proposes that exposure to SMI commentary moderates the relationship between media repertoires and trust in climate change news. Specifically, SMI exposure may weaken trust among traditional news consumers but strengthen it among cross-media users, who are more used to blending institutional and peer-driven news content.

The following hypotheses are proposed:

H4a: Exposure to SMI commentary weakens trust in news media reporting about climate change among traditional news media users..

H4b: Exposure to SMI commentary strengthens trust in news media reporting about climate change among cross-media news users.

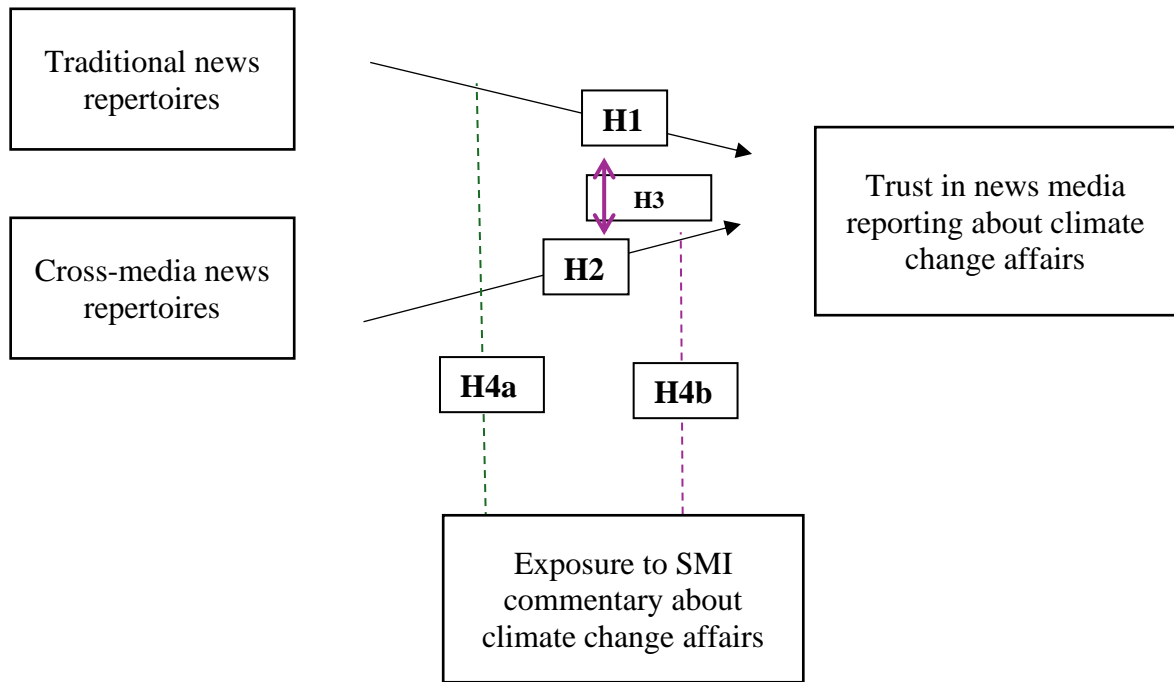


Figure 1. Conceptual model

3. Methods

This study uses an online quantitative survey experiment to examine how news media repertoires influence trust in climate change news media and whether exposure to social media influencer commentary may moderate that trust. The experimental nature of this design allows for hypothesis testing, including cause-and-effect relationships and interaction effects, making it suitable for this study (Mohajan, 2020, p. 58). While qualitative research is better at explaining individual perspectives in depth, a quantitative approach is more appropriate here, as it allows for testing relationships between variables and identifying patterns across a larger sample within a population (Lim, 2024, p. 2; Mohajan, 2020, p. 51). Furthermore, a survey is suitable for this study as it enables participants to self-report their own news consumption habits, which is essential for measuring media repertoires, individual patterns that can only be meaningfully captured through personal reflection and disclosure. Lastly, the quantitative method is chosen due to feasibility. Collecting survey responses online is time, place, and cost-efficient, particularly within an experimental setting involving controlled media exposure (Lim, 2024, p. 7).

The following sections will elaborate on the sampling procedure, operationalization, validity and reliability measures, and the data analysis.

3.1 Sample and sampling method

The target population for this study consists of adult news consumers with varying media habits and basic awareness of climate change. The sample consists of individuals from this population who engage with news by reading, watching, and/or listening to current affairs. To be eligible, participants must be at least 18 years old to provide informed consent and allow their responses to be used for research purposes. In addition, participants must have a basic awareness of the concept of climate change, while detailed knowledge is not required, a general familiarity with the phenomenon is necessary, regardless of their personal beliefs about it. Another inclusion criterion is recent news engagement. Participants must have consumed some form of news within the week prior to taking the survey.

The recruitment process was conducted through personal networks via social media platforms (e.g., Instagram, LinkedIn), WhatsApp, and email. Word-of-mouth recruitment was encouraged by asking participants to share the survey within their own networks after completing it, helping to expand the reach beyond the researcher's immediate circle. This dual approach enabled the collection of responses from a wide and varied pool of news consumers.

This study used non-probability sampling methods. The sampling strategy is best

described as a combination of convenience and snowball sampling. The word-of-mouth sampling method allowed for organic recruitment through social connections and broader community outreach. This combination was intended to increase the sample diversity and participation. The sampling took place entirely online from the 18th to the 25th of May 2025.

To ensure ethical standards were maintained, participants were presented with a consent form at the beginning of the survey. The form explained that the study was intended for adults aged 18 and older, and that participation was entirely voluntary. It also made clear that there were no risks involved in taking part in the survey, and that responses would remain anonymous. Participants were informed that they could leave the survey at any time without any consequences, even if they did not complete it. This procedure was implemented to ensure adherence to ethical standards and protect the rights of respondents participating in the study. The consent form can be found in Appendix A.

3.2 Operationalization

This study examines how traditional and cross-media news repertoires affect trust in news media reporting about climate change news and whether this relationship is moderated by exposure to SMI's commentary.

The independent variables, traditional and cross-media news repertoires, are conceptualized using measures adapted from Verboord (2023). Participants were asked, "*How often do you use the following medium/ media to keep up with the news?*" to report their frequency of news consumption across a range of sources. While the original scale by Verboord (2023, p. 249) included five repertoire types, it was adapted in this study into two simplified groups, traditional and cross-media repertoires, to align with the study's focus and sample size. Traditional news repertoires consist of six items (*printed national newspapers, printed regional newspapers, printed opinion magazines, printed topic-specific magazines, television news broadcasts, radio news programs*). Cross-media repertoires consist of eight items (*website of national newspapers, website of regional newspapers, other news websites, Facebook, Twitter/ X, YouTube, Instagram, Reddit*). Reddit and Instagram are included based on previous studies indicating that these platforms are also used for news consumption (Geers, 2020, p. 344; Vulpius et al., 2022, p. 11). Both repertoire dimensions were measured using a five-point Likert scale, adapted from Verboord (2023) (*1 = never, 2 = less than once a month, 3 = a couple of times a month, 4 = a couple of times a week, 5 = almost daily*). Based on the responses, this study takes an inductive approach to identify underlying repertoire structures and empirical grouping of the items. Specifically, the factor analysis will

be conducted for this grouping. This step will be elaborated in the data analysis section.

The dependent variable (DV), trust in news media reporting about climate change, is conceptualized using measures adapted from Strömbäck et al. (2020). While the original scale by Strömbäck et al. (2020, p. 150) included five dimensions of trust, this study focuses on three dimensions: trust in news media type, actor, and content. The two remaining dimensions from the original research, trust in "*the news media in (country)*" and in "*individual news brands*" were excluded (Strömbäck et al., 2020, p. 150), as they are not relevant and applicable in this study. For trust in news media type, participants were asked, "*To what extent do you agree with the following statements about the climate change news you just read?*". For trust in news media actors, participants were asked, "*To what extent do you agree with the following statements about the person or people delivering the climate change news you just read?*". For trust in news media content, participants were asked, "*To what extent do you agree with the following statements about the content of the climate change news you just read?*". The trust dimensions were measured using a five-point Likert scale (*1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree*).

Several demographic variables are included to measure potential background influences on the dependent variable. These include respondents' age, gender, highest level of education, nationality, employment status, and interest in climate change news or information. The latter is measured through the question "*How interested are you in information or news about climate change?*" rated on a five-point Likert scale (*1 = not at all interested, 2 = slightly interested, 3 = moderately interested, 4 = very interested, 5 = strongly interested*). As this variable serves mainly as a background variable rather than a central concept, an elaborated scale seemed unnecessary. Furthermore, this item does not measure attitudes or beliefs about climate change, but rather reflects a general interest in the topic. This approach is supported by Van Valkengoed et al. (2021), who found that well-developed single-item measures can be a valid alternative to longer scales when aiming to capture perceptions about climate change (p. 15).

The experimental manipulation in this study involves the presence or absence of SMI commentary, with participants randomly assigned to either of these conditions. In the SMI-present condition, participants were shown a post by an influencer that reacted negatively to the climate change article. The comment downplayed the seriousness of climate change, criticized scientists and activists for exaggerating its effects, and suggested that such warnings are used to gain attention or funding (see Appendix C). This negative tone was chosen intentionally, as it reflects a common type of commentary seen on social media platforms

during the researcher’s personal exploration on social media, where influencers often express skepticism. Including this kind of message allowed the study to examine whether exposure to such informal and critical commentary affects trust in the original news source. The dependent variable is trust in the news media reporting about climate change news articles. Table 3.2 provides an overview of the experiment designs. The news article used in the experiment is based on a real Dutch news article published by NOS (see Appendix D), adapted into English for research purposes. The text was shortened and summarized into a concise news text. Similarly, the SMI profile and commentary were entirely fictional. The visual elements used to represent the influencer post were created using Sora, an AI media generation platform. The entire image, including the influencer’s profile picture, username, layout, and the critical commentary, was created through text prompts within Sora to simulate a realistic social media post. An AI declaration statement can be found in Appendix E. This approach made it possible to create a realistic and clear social media post while keeping full control over the content and making sure that no real people or existing accounts were used. Table 3.2 provides an overview of the experimental design

Table 3.2

Survey Design Overview

Group name	News source	SMI commentary	Survey flow
Traditional manipulated	De Volkskrant	Present	Climate change article from De Volkskrant + SMI commentary
Traditional no manipulation	De Volkskrant	Absent	Climate change article from De Volkskrant only
Cross-media manipulated	Nu.nl	Present	Climate change article from Nu.nl + SMI commentary

Cross-media no manipulation	Nu.nl	Absent	Climate change article from Nu.nl only
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3.3 Validity and reliability

Reliability refers to the stability of results when the same measurements are applied consistently (Lim, 2024, p. 17). In this study, reliability analysis will be conducted after data collection through Qualtrics, using Cronbach's alpha as the statistical measure. Cronbach's alpha evaluates the internal consistency of each scale by assessing how closely the items within a dimension are related to one another. To support validity, a factor analysis was conducted to determine item clustering before calculating the Cronbach's alpha.

Validity refers to the extent to which the survey's concepts accurately capture what they are intended to measure (Lim, 2024, p. 6). To ensure content validity, this study adapts measurement scales from previous research. The news repertoire items were adapted from Verboord (2023), while the trust in news media dimensions were drawn from Strömbäck et al. (2020). Using measures from previous studies helps to ensure that the concepts are consistent with the theoretical definitions, supporting construct validity. In this study, the questionnaire was distributed to a small group of respondents who are familiar with the topics of news media, SMI, and climate change. This preliminary review, also known as the pilot test, was conducted to ensure content validity. Their feedback enables adjustments and improvements to elements in the survey where necessary. By confirming that the questions are both representative and meaningful, the pilot test strengthened the survey's validity to measure the intended subject accurately (Lim, 2024, p. 6).

Based on the results, the news repertoire scale, adapted from Verboord (2023), has a Cronbach's alpha of 0.74, indicating acceptable reliability. The trust scale, adapted from Strömbäck et al. (2020), yielded a Cronbach's alpha of 0.74, reflecting an acceptable level of internal consistency.

3.4 Data Analysis

After data collection, a data cleaning procedure was conducted to ensure that all responses were fully and correctly completed. Additionally, responses that did not align with the consent form were excluded prior to data analysis. Once data cleaning was completed, data preparation followed, beginning with two preliminary tests conducted for this purpose. The first test involved a factor analysis to identify how the news media repertoire items

clustered based on participants' usage patterns. This inductive approach was chosen to empirically group news sources that are tailored to the current sample, rather than assuming a fixed division between traditional and cross-media items that belonged to certain groups according to previous scales and studies. This helps prevent misclassification, especially among participants with little differences in their news media habits. The results of the factor analysis were then used to group participants by their news repertoires for further hypothesis testing. Once the new grouping of items was established, the reliability analysis was conducted using Cronbach's alpha to assess the internal consistency of the scales. A Cronbach's alpha of .70 or higher is considered acceptable (Lim, 2024, p. 17). The Cronbach's alpha score of traditional news repertoire is 0.74, 0.75 for the cross-media news repertoire, and a range of 0.83 to 0.91 for the trust variable. These values indicate that all scales used in the study have a high internal consistency. Afterwards, a second test, the factor analysis, was conducted.

Once data preparation was complete, descriptive statistics were calculated for all demographic variables. These include age, gender, education level, employment status, nationality, and interest in climate change news. Subsequently, frequencies, means, and standard deviations were used to summarize the sample profile.

To test H1 and H2, a simple linear regression was conducted for both predictors. This method is suitable for examining the influence of one independent variable on one dependent variable (Lim, 2024, p. 16). This study examines whether people's news repertoires (traditional or cross-media) have a positive impact on their trust in news media reporting about climate change.

To test H3, an independent samples t-test was conducted. This test compared the mean trust scores between participants grouped by their dominant media repertoire (traditional vs. cross-media). It allows for assessing whether significant differences exist in the dependent variable (Lim, 2024, p. 17) (trust levels in news media reporting about climate change) depending on the type of news media consumption. While both hypotheses expect high trust, the independent samples t-test indicates whether the difference between the two groups is statistically significant, based on the *p*-values.

To test H4a and H4b, a multiple linear regression analysis with an interaction variable (Lim, 2024, p. 15 & 19; Mohajan, 2020, p. 65) was performed. The independent variables included media repertoire (coded as 1 = traditional, 0 = cross-media), SMI exposure (0 = no, 1 = yes), and their interaction. Participants were categorized based on their dominant news repertoire by comparing their average scores for traditional and cross-media news use. Those

with higher scores for traditional news media repertoires were classified as the traditional group, while those with higher cross-media news repertoire scores were labeled the cross-media group. Participants with equal scores for both news media repertoire types were placed in a separate group, called the excluded equal group, and were excluded from further comparison to maintain a strict clarity between the two main groups, the traditional and cross-media news repertoires. This categorization allowed for a clear analysis of the two groups in this study.

This moderation analysis was used to see whether the relationship between news media repertoires and trust in climate change news media shifts depending on whether participants were exposed to influencer commentary, as outlined in the conceptual model. A significant interaction would indicate that the effect of repertoire type (IV) on trust (DV) varies based on whether the participant was exposed to SMI commentary or not. A significance threshold of $p < .005$ was used throughout this study to determine statistical significance. All statistical analyses were conducted using SPSS version 26.

4. Results

The following section describes the results obtained from the online experiment. First, an overview of the sample's descriptive statistics will be presented. Subsequently, the outcomes of the preliminary analyses, including the reliability and factor analyses, are discussed to assess the reliability and validity of the measured scales. Finally, the results of the hypothesis testing are reported in the last section.

4.1 Descriptive statistics

After data cleaning, the survey yielded 101 respondents ($N = 101$). Demographics indicated that 59.5% of the participants identified as female ($N = 47$), 38.0% as male ($N = 30$), and 2.5% ($N = 2$) identified as non-binary or other. The remaining 21.8% ($N = 22$) prefer not to disclose their gender. Furthermore, the age category ranged from 18 to 77 years old. The mean age of the survey participants was 29.9 ($SD = 12.35$). 42.9% ($N = 33$) reported working full-time, while 19.5% ($N = 15$) were working part-time. Furthermore, 20.8% ($N = 16$), identified as students. Lastly, 5.2% ($N = 4$) indicated they were retired. The top three nationalities that were present in this survey were Dutch (61.7%) ($N = 50$), French (8.6%) ($N = 7$), and Spanish and Turkish (each 3.7%) ($N = 3$ each). Furthermore, most respondents had achieved a Master's degree (29.6%) ($N = 24$). In addition, most respondents answered “*moderately interested*” (32.1%) ($N = 26$) to the question “*How interested are you in information or news about climate change?*”.

4.2 Factor and Reliability analysis

The IVs in this study were traditional and cross-media news repertoires. The DV was trust in news media reporting about climate change. All variables in this study were measured using a Likert scale ranging from 1 to 5. To identify underlying components in participants' news media usage patterns, factor analysis was conducted. The factor analysis yielded a four-component solution. Based on the test, it was decided to exclude *radio* for further analysis because it loaded as a single-item factor, meaning that there is no meaningful statistical or conceptual overlap with other traditional items. Furthermore, while *Reddit* and *television news broadcasts* had weaker factor loadings, they were kept for further analysis based on their theoretical relevance to the cross-media and traditional news repertoires. Items such as *websites of newspapers*, *YouTube*, *Facebook*, and *Twitter/X* clustered strongly on component 1, clearly supporting their inclusion in the cross-media repertoire. Therefore, only *radio* was removed to improve the overall construct validity, while *Reddit* and *television news broadcasts* were kept based on theoretical justification for the final hypothesis testing.

After the factor analysis, the reliability analysis was conducted. The items included in the traditional news media repertoires were *printed national newspapers, printed regional newspapers, printed opinion magazines, printed topic-specific magazines, and television news broadcasts*. Hereby, *radio news programs* were excluded. Traditional news media repertoires had a mean of 11.78 ($SD = 4.58$), based on a scale of five items. The internal consistency of the scale was acceptable, with a Cronbach's alpha of 0.78. The items included in the cross-media news repertoires were *website of national newspapers, website of regional newspapers, other news websites, Facebook, Twitter/ X, YouTube, Instagram, and Reddit*. Cross-media news repertoires had a mean of 24.17 ($SD = 6.86$). Based on a scale of eight items. The internal consistency of the scale was acceptable, with a Cronbach's alpha of 0.74. Subsequently, the trust variable was assessed for its reliability. Since participants in different conditions saw different stimuli (traditional vs. cross-media news article, with or without SMI commentary), Cronbach's alpha was calculated separately for each condition to assess the internal consistency of the trust scale. This approach ensures that the internal consistency of the trust scale is valid across all groups before combining the items into a single composite trust variable for further analysis. The trust scale for the conditions without SMI manipulation demonstrated good and high internal consistency. For the traditional with SMI condition, Cronbach's alpha was 0.83, with a mean trust score of $M = 47.43$, $SD = 7.18$. For the cross-media with SMI condition, Cronbach's alpha was 0.88, with a mean trust score of $M = 47.42$, $SD = 7.89$. The trust scale for the conditions with SMI manipulation demonstrated good internal consistency. These values indicate good to excellent internal consistency across all conditions of the trust scale.

4.3 Hypothesis testing

4.3.1 The main effects of news repertoires on trust level

Hypothesis 1 states, "*Traditional news repertoires have a positive impact on the level of trust in news media reporting about climate change news affairs*". To test this, a simple linear regression was performed with the traditional dominant group as the independent variable and total trust as the dependent variable. The regression model was statistically significant, $F(1, 92) = 55.87$, $p = .001$, and explained approximately 37.8% of the variance in trust levels ($R^2 = .378$). Hypothesis 2 states, "*Cross-media news repertoires have a positive impact on the level of trust in news media reporting about climate change news affairs*." A simple linear regression was conducted to examine whether cross-media news repertoires predict trust in climate change news media. The regression model was statistically significant,

$F(1, 88) = 41.23, p < .001$, and explained approximately 31.9% of the variance in trust scores ($R^2 = .319$). Therefore, both hypotheses 1 and 2 are supported, as the regression models show that both traditional and cross-media news repertoires have a statistically significant and positive impact on trust in climate change news reporting.

Hypothesis 3 states, “*Individuals with Cross-media news repertoires have a higher level of trust in news media reporting about climate change affairs compared to those with traditional news repertoires.*” The independent samples t-test was employed to test the direct relationship of traditional and cross-media news repertoires on the dependent variable, trust in news media climate change. As previously mentioned, participants were divided into two categories, dependent on their dominant news repertoires. The independent samples t-test revealed a statistically significant difference in trust levels between the two groups, $t(83) = 2.68, p = .009, 95\% CI [0.09, 0.59]$. Traditional news consumers ($M = 3.50, SD = 0.55$) reported significantly higher trust in climate change news compared to cross-media news consumers ($M = 3.16, SD = 0.50$). These results indicate that traditional news consumers have a significantly higher level of trust in news media reporting about climate change than cross-media consumers. Therefore, Hypothesis 3 is not supported.

4.3.2 The moderation effect of SMI commentary on trust level in news media reporting about climate change

Hypothesis 4a states “*Exposure to SMI commentary weakens trust in news media reporting about climate change among traditional news media users,*” and hypothesis 4b states “*Exposure to SMI commentary strengthens trust in news media reporting about climate change among cross-media news users.*” To test the moderation effect of SMI exposure on the relationship between news repertoire type and trust in climate change news, a multiple linear regression analysis was conducted. Three predictors were included in the model: News repertoire group (coded 0 = cross-media, 1 = traditional), the moderator was SMI exposure (0 = without SMI, 1 = with SMI), and the interaction term between news repertoire and SMI exposure, which was computed and added to the dataset. The dependent variable was trust in news media reporting about climate change news, measured as a composite score across three trust dimensions. The regression analysis was used to assess whether the effect of news repertoire type on trust differed depending on whether participants were exposed to SMI commentary. The model was found to be statistically significant, $F(3, 81) = 3.82, p = .013$. Furthermore, the model explained 12.4% of the total variance ($R^2 = 0.12$). While the model proved to be significant overall, the interaction effect was not. The interaction term between

news repertoire group and SMI exposure ($b = -0.44$, $t = -1.66$, $p = .101$, 95% CI $[-0.97, 0.09]$) did not have a significant impact on trust in climate change news. This indicates that SMI commentary did not significantly moderate the relationship between news media repertoire type and trust in climate change news. Therefore, hypotheses 4a and 4b are not supported.

Table 4.3.2

Regression Model for Predicting the Moderating Effect of SMI Exposure on the Relationship Between News Repertoire and Trust in Climate Change News (N = 85)

	<i>Trust in climate change</i>
	<i>news</i>
	<i>b</i>
Constant	3.17***
Repertoire group (IV)	0.65**
SMI exposure (Moderator)	-0.03
Interaction (IV \times Moderator)	-0.44
<i>F</i>	3.82*
<i>R</i> ²	0.12

Note.: Significance levels: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Repertoire group: 0 = Cross-media, 1 = Traditional

SMI exposure: 0 = No commentary, 1 = SMI commentary

4.3.4 Control variables on trust level

A multiple linear regression was conducted to assess the correlation of the control variables, age, gender, climate interest, nationality, and employment status on trust in climate change news media. The overall model was not statistically significant, $F(6,70) = 0.90$, $p = 0.502$ and explained only 7.1% of the variance in trust ($R^2 = 0.071$). None of the control variables significantly predicted trust levels. Age ($b = 0.005$, $p = 0.365$), gender (male: $b = -0.403$, $p = 0.471$ and female: $b = -0.489$, $p = 0.381$), climate interest ($b = 0.034$, $p = 0.567$), Dutch nationality ($b = 0.153$, $p = 0.258$), and employment status ($b = -0.041$, $p = 0.240$) were not significant predictors. A second model was tested that included the main predictors (news repertoires, coded 0 = cross-media, 1 = traditional, and SMI exposure) and their interaction. This model explained 18.6% of the variance in trust ($R^2 = 0.18$) though the model itself was

not statistically significant, $F(9,67) = 1.70$, $p = 0.106$. However, news repertoire type was a significant individual predictor ($b = 0.651$, $p = 0.005$), indicating that traditional news consumers reported higher trust in climate change news media compared to cross-media users. The interaction between news repertoire and SMI exposure showed a trend toward significance ($b = -0.469$, $p = 0.101$). No other predictors, including the control variables, were significant in the full model.

5. Discussion and conclusion

This chapter discusses the findings of the study in relation to the hypotheses and theoretical framework. It begins by examining the main effects of news repertoires on trust in climate change reporting, followed by an analysis of the moderating role of SMI commentary. Next, it examines the influence of control variables on the dependent variable, followed by a discussion of the study's limitations and suggestions for future research.

5.1 Discussing the main effects

The findings of this study support both H1 and H2, indicating that they both positively affect the trust level in news media reporting about climate change. The positive impact can be explained by the overall trust people have in the established credibility and journalism of news institutions. News sources, such as newspapers and television, are often perceived as more trustworthy because they adhere to strict journalistic and editorial guidelines (Fotopoulos, 2023, p. 278; Elvestad et al., 2018, p. 220). People also tend to turn to these traditional sources during crises, which supports the idea of "*intensification*" (Vulpius, 2023, p. 12). This preference for organized and professional reporting could explain the positive effect on trust in news media reporting about climate change. Moreover, individuals who use cross-media news repertoires also indicate a statistically significant positive impact on trust. This finding aligns with previous studies that emphasize the benefits of users adopting cross-media repertoires, which lead to a more dynamic and participatory news diet (Fletcher, 2017, p. 4; Kalogeropoulos et al., 2019, p. 3676). This type of engagement allows users to evaluate credibility within context, often relying on affordances provided by each platform, such as comment sections, social recommendations, or peer-to-peer fact-checking tools (Vulpius et al., 2023, p. 11). In addition, Cotter and Thorson's (2022, p. 640) term "*information cacophony*" helps explain the positive impact, as their research noted that younger users often assess trustworthiness through emotional connection, social approval, and the combination of different sources, rather than relying merely on one trusted institution.

Unlike H1 and H2, H3 is not supported in this study. The results found a statistically significant difference between the two groups, with traditional news users demonstrating significantly higher trust levels than the cross-media group. Beyond professional standards, another explanation for the higher trust levels among traditional news consumers could lie in the habits of their news engagement. Strömbäck et al. (2017, p. 421) mentioned that traditional media use is often tied to established routines, which fosters consistent exposure to trusted sources. These habits not only build a sense of familiarity but also strengthen the idea

that traditional news is objective. This kind of intentional news use is different from how cross-media news consumers consume news. They often encounter news incidentally through social media or digital feeds, resulting in a more fragmented and less concentrated news experience (Kalogeropoulos et al., 2019, p. 3677). At the same time, the rejected hypothesis could be influenced by the design of the study itself. In this study, the traditional article was presented as coming from *De Volkskrant*, a well-established legacy news outlet in the Netherlands, whereas the cross-media source was from *Nu.nl*, which is often perceived as a mainstream or semi-traditional news source in the Dutch media landscape. As *Nu.nl* explains on its own website (Colsen, 2022), the platform focuses on independence, factual reporting, and a clear, neutral tone, qualities that are often linked to traditional news media. Because of this, participants may have viewed *Nu.nl* and *De Volkskrant* as equally traditional and trustworthy, and lowered trust scores in the cross-media group. As previous studies have shown, brand familiarity and perceived quality have a strong influence on trust (Elvestad et al., 2018, p. 222; Daniller et al., 2017, p. 81). Thus, the trust gap may reflect existing perceptions of *Nu.nl* as a traditional source, rather than pointing to the differences in media repertoire alone.

5.2 Discussing the moderation effect

H4a and H4 b expected that exposure to SMI commentary would moderate the relationship between the news repertoires and trust in climate change news media reporting, thereby strengthening trust among cross-media news repertoires users and weakening it among traditional news media repertoires users. However, this hypothesis was rejected. While the overall regression model was statistically significant, the interaction term between SMI exposure and news repertoire was not. This indicates that the presence of SMI commentary did not significantly change the relationship between the news media repertoire and trust in news media reporting about climate change. Prior studies emphasize that influencers are perceived as authentic, accessible figures who foster parasocial relationships with their followers (Schouten et al., 2019, p. 261; Yuan & Lou, 2020, p. 134). This credibility allows SMIs to be seen as informal opinion leaders able to shape how audiences interpret news (Enke & Borchers, 2019, p. 265; Wasike, 2023, p. 3111). Given these theoretical expectations, one could argue for a moderating effect of SMI commentary. One explanation for the absence of a moderation effect could be due to the nature of climate change as a science-based topic, which limits the persuasion of informal commentary. Traditional news users may find the SMI comment as less credible, especially when professional journalism remains the primary

source, *De Volkskrant* in this case. This aligns with Kalogeropoulos et al. (2019, p. 14), who found that news shared via social media is often met with higher skepticism. Furthermore, the lack of the moderation effect might be explained by the design of the experimental conditions. Cross-media news users typically rely on relational and emotional cues when assessing trust (Cotter & Thorson, 2022, p. 640; Flamino et al., 2023, p. 907). The fictional SMI commentary lacked the familiarity to trigger such responses. Yuan and Lou (2020, p. 135) highlight that trust in influencers usually develops over time through repeated interactions and the parasocial relationship, though one-sided, yet still meaningful. Because such relationships take time to build, a single exposure to an unknown influencer's commentary is unlikely to significantly influence trust levels. This suggests that the lack of a moderating effect in this experiment could be due to the fictional and brief nature of the SMI exposure, which did not allow the relational trust necessary to influence participants' perceptions.

Therefore, the absence of a moderating effect of SMI commentary in this study may be explained by the scientific nature of the climate change topic, which reduces the influence of informal commentary for traditional news users, combined with the experimental design where the fictional and unfamiliar SMI lacked the established relational trust needed to significantly affect perceptions of cross-media news users.

5.3 Discussing the control variables

The results show that none of the control variables (age, gender, climate change interest, nationality, or employment status) significantly predicted trust in climate change news. This underscores that trust is more strongly determined by the news media repertoires than by demographic variables. These findings coincide with literature emphasizing that media trust is more associated with media behavior and repertoire patterns than with socio-demographic characteristics alone (Picone & Vandenplas, 2021, p. 91; Verboord, 2023, p. 246). Despite that prior studies mentioned that factors like digital literacy or climate concern may indirectly shape media preferences (Picone & Vandenplas, 2021, p. 99; Van Valkengoed et al., 2021, p. 15), they have little effect when controlling for media repertoire.

Thus, in this study, only the news media repertoire group was a significant predictor, emphasizing the key role of news consumption patterns in shaping trust.

5.4 Limitations and future research

Despite offering relevant insights into the relationship between media repertoires, SMI commentary, and trust in news media reporting about climate change, this study has several limitations. First, the use of *Nu.nl* as the representative news source for the cross-media

condition may have affected the findings. Participants may have perceived *Nu.nl* similarly to the traditional news source *De Volkskrant*, potentially blurring the distinction between the two news sources and influencing trust scores. This overlap could have limited the ability to capture differences in trust based purely on media repertoire, thereby affecting the study's internal validity. Secondly, the use of a fictional social media influencer in the experimental condition may have limited the validity of the findings. Prior literature emphasizes that trust in influencers is built on established parasocial relationships (Yuan & Lou, 2020, p. 135), which a one-time exposure cannot simulate. As a result, a significant moderation effect was not found due to this artificial setting. Third, while the survey experiment allowed for controlled manipulation, the sample was recruited through non-probability sampling methods, primarily personal networks, which could limit the generalizability of the results to a broader population. Additionally, the relatively small sample size ($N = 101$) may have affected the study's findings. A limited sample increases the risk of sampling bias, reducing the representativeness of the results and their applicability. With a larger and more diverse participant pool, the results could be more generalizable to the wider population of news consumers. Finally, while background variables such as age, gender, or climate interest were included as control variables, the study did not consider to include factors such as political preferences or digital literacy, which are known to shape trust and media behaviors (Picone & Vandenplas, 2021, p. 99; Van Valkengoed et al., 2021, p. 15). These limitations should be considered when interpreting the findings.

Further research could explore various ways in which media consumption patterns and social media influencers impact trust in climate change reporting. First, given that this study used a fictional SMI to ensure experimental control, future research could incorporate real influencers with established followings. Prior literature highlights that trust in influencers is strongly linked to perceived authenticity, emotional resonance, and parasocial relationships (Yuan & Lou, 2020, p. 135; Schouten et al., 2019, p. 261), which are difficult to replicate in a single experimental setup. Including well-known influencers, especially those who are already engaged in environmental or scientific advocacy, such as Greta Thunberg, could offer a more valid test of their impact on trust. Secondly, while this study used a composite measure of trust, it may be useful for future studies to break down trust into specific elements, including trust in who delivers the news, what is being reported, and how it is delivered. Lastly, future research could add more control variables. While this study controlled for demographic factors and climate interest, additional variables such as political ideology, digital literacy or media skepticism have been shown to shape both news consumption habits and trust (Picone

& Vandenplas, 2021, p. 99; Van Valkengoed et al., 2021, p. 15). Including these variables would provide a more comprehensive view of how audience biases interact with media content and sources, helping future studies explore trust in today's dynamic news media landscape.

References

- Anyanwu, C., Imiti, A. L., & Anyanwu, C. J. (2024). Traditional news media as agents of authenticity: Nigerian audiences weathering the onslaught of new media streaming. *Journalism and Media*, 5(2), 456–466. <https://doi.org/10.3390/journalmedia5020030>
- Bergström, A., & Belfrage, M. J. (2018). News in social media. *Digital Journalism*, 6(5), 583–598. <https://doi.org/10.1080/21670811.2018.1423625>
- Bohr, J. (2020). “Reporting on climate change: A computational analysis of U.S. newspapers and sources of bias, 1997–2017.” *Global Environmental Change*, 61, 1–15. <https://doi.org/10.1016/j.gloenvcha.2020.102038>
- Colsen, L. (2022, March 8). *Het ontstaan van NU.nl: “Binnen enkele weken de populairste nieuwssite van het land.”* Nu.nl. Retrieved June 23, 2025, from <https://www.nu.nl/ontstaan-missie-en-visie/6188119/het-ontstaan-van-nunl-binnen-enkele-weken-de-populairste-nieuwssite-van-het-land.html>
- Cotter, K., & Thorson, K. (2022). Judging value in a time of information cacophony: Young adults, social media, and the messiness of do-it-yourself expertise. *The International Journal of Press/Politics*, 27(3), 629–647. <https://doi.org/10.1177/19401612221082074>
- Enke, & Borchers. (2019). Social media influencers in strategic communication: a conceptual framework for strategic social media influencer communication. *International Journal of Strategic Communication*, 13(4), 261–277. <https://doi.org/10.1080/1553118X.2019.1620234>
- Flamino, J., Galeazzi, A., Feldman, S., Macy, M. W., Cross, B., Zhou, Z., Serafino, M., Bovet, A., Makse, H. A., & Szymanski, B. K. (2023). Political polarization of news media and influencers on Twitter in the 2016 and 2020 US presidential elections.

Nature Human Behaviour, 7(4), 904–916. <https://doi.org/10.1038/s41562-023-01550-8>

- Fotopoulos, S. (2023). Traditional media versus new media: between trust and use. *European View*, 22(2), 277–286. <https://doi.org/10.1177/17816858231204738>
- Geers, S. (2020). News Consumption across media platforms and content. *Public Opinion Quarterly*, 84(1), 332–354. <https://doi.org/10.1093/poq/nfaa010>
- Gendler, A. (2024, October 24). Fewer Americans trust the news; the question is why. *Voice of America*. <https://www.voanews.com/a/fewer-americans-trust-the-news-the-question-is-why/7837953.html>
- Gulluscio, C., Puntillo, P., Luciani, V., & Huisingh, D. (2020). Climate Change Accounting and Reporting: A Systematic Literature review. *Sustainability*, 12(13), 1–31. <https://doi.org/10.3390/su12135455>
- Hasebrink, U., & Domeyer, H. (2012). Media repertoires as patterns of behaviour and as meaningful practices. A multimethod approach to media use in converging media environments. *Participations: Journal of Audience & Reception Studies*, 9(2), 757–779. <https://www.participations.org/09-02-41-hasebrink.pdf>
- Kalogeropoulos, A., Suiter, J., Udriș, L., & Eisenegger, M. (2019). News media trust and news consumption: factors related to trust in news in 35 countries. *International Journal of Communication*, 13, 22, 3672–3693. <https://doi.org/10.5167/uzh-175863>
- Ki, C., Cuevas, L. M., Chong, S. M., & Lim, H. (2020). Influencer marketing: Social media influencers as human brands attaching to followers and yielding positive marketing results by fulfilling needs. *Journal of Retailing and Consumer Services*, 55, 102133. <https://doi.org/10.1016/j.jretconser.2020.102133>.
- Lim, W. M. (2024). What is quantitative research? an overview and guidelines. *Australasian Marketing Journal*, 32(1), 4–10. <https://doi.org/10.1177/14413582241264622>

- Meier, F., & Eskjær, M. F. (2024). Topic modeling three decades of climate change news in Denmark. *Frontiers in Communication*, 8.
<https://doi.org/10.3389/fcomm.2023.1322498>
- Meijer, I. C., & Kormelink, T. G. (2014). Checking, sharing, clicking and linking. *Digital Journalism*, 3(5), 664–679. <https://doi.org/10.1080/21670811.2014.937149>
- Mourão, R. R., Thorson, E., Chen, W., & Tham, S. M. (2018). Media repertoires and news trust during the early Trump administration. *Journalism Studies*, 19(13), 1945–1956.
<https://doi.org/10.1080/1461670x.2018.1500492>
- Mohajan, H. K. (2020). Quantitative research: a successful investigation in natural and social sciences. *Journal of Economic Development Environment and People*, 9(4), 50-79.
<https://doi.org/10.26458/jedep.v9i4.679>
- Picone, I., & Vandenplas, R. (2021). Windows to the world: imagining flemish news audiences and their views on society through the lens of news repertoires. *Digital Journalism*, 10(1), 87–108. <https://doi.org/10.1080/21670811.2021.1972323>
- Prochazka, F., & Schweiger, W. (2018). How to measure generalized trust in news Media? An adaptation and test of scales. *Communication Methods and Measures*, 13(1), 26–42. <https://doi.org/10.1080/19312458.2018.1506021>
- Schouten, A. P., Janssen, L., & Verspaget, M. (2019). Celebrity vs. influencer endorsements in advertising: the role of identification, credibility, and Product-Endorser fit. *International Journal of Advertising*, 39(2), 258–281.
<https://doi.org/10.1080/02650487.2019.1634898>
- Sormanen, N., Rantala, E., Lonkila, M., & Wilska, T. (2022). News consumption repertoires among Finnish adolescents: Moderate digital traditionalists, minimalist social media stumblers, and frequent omnivores. *Nordicom Review/NORDICOM Review*, 43(2), 234–253. <https://doi.org/10.2478/nor-2022-0014>

- Stocking, G., Wang, L., Lipka, M., Matsa, K. E., Widjaya, R., Tomasik, E., & Liedke, Ja. (2024). America's news influencers. In *Pew Research Center*. Retrieved April 23, 2025, from <https://www.pewresearch.org/journalism/2024/11/18/americas-news-influencers/>
- Strömbäck, J., Falasca, K., & Kruikemeier, S. (2017). The mix of media use matters: Investigating the effects of individual news repertoires on offline and online political participation. *Political Communication*, 35(3), 413–432. <https://doi.org/10.1080/10584609.2017.1385549>
- Strömbäck, J., Tsfati, Y., Boomgaarden, H., Damstra, A., Lindgren, E., Vliegenthart, R., & Lindholm, T. (2020). News media trust and its impact on media use: toward a framework for future research. *Annals of the International Communication Association*, 44(2), 139–156. <https://doi.org/10.1080/23808985.2020.1755338>
- Swart, J., Peters, C., & Broersma, M. (2016). Navigating cross-media news use. *Journalism Studies*, 18(11), 1343–1362. <https://doi.org/10.1080/1461670x.2015.1129285>
- Szandi, F. (2024, September 26). Key Insights from the Reuters Institute Digital News Report 2024. *Sourcefabric*. <https://www.sourcefabric.org/blog/key-insights-from-the-reuters-institute-digital-news-report-2024-kygol1xc>
- Van Valkengoed, A., Steg, L., & Perlaviciute, G. (2021). Development and validation of a climate change perceptions scale. *Journal of Environmental Psychology*, 76, 101652. <https://doi.org/10.1016/j.jenvp.2021.101652>
- Verboord, M. (2023). Bundles of trust? examining the relationships between media repertoires, institutional trust, and social contexts. *Communications*, 49(2), 243–262. <https://doi.org/10.1515/commun-2022-0013>

- Vulpus, J., Lehaff, J., Schröder, K. C., & Peters, C. (2022). Exploring changing news repertoires: Towards a typology. *Journalism*, 24(1), 78–100.
<https://doi.org/10.1177/14648849211047384>
- Wasike, B. (2023). I am an influencer and I approve this message! examining how political social media influencers affect political interest, political trust, political efficacy, and political participation. *International Journal of Communication*, 17, 3110–3132.
<http://ijoc.org/index.php/ijoc/article/view/20829>
- Weeks, B., Ardévol-Abreu, A., & Zúñiga, H. (2015). Online influence? Social media use, opinion leadership, and political persuasion. *International Journal of Public Opinion Research*, 29, 214-239. <https://doi.org/10.1093/IJPOR/EDV050>.
- Yuan, S., & Lou, C. (2020). How social media influencers foster relationships with followers: The roles of source credibility and fairness in parasocial relationship and product interest. *Journal of Interactive Advertising*, 20, 133 - 147.
<https://doi.org/10.1080/15252019.2020.1769514>.

Appendices

Appendix A – Consent Form

Consent Form

Intro

Welcome and thank you for your interest in participating in this research.

In this online experiment, you are provided with a fictional news article about climate change. This experiment is conducted to study trust in news media reporting about climate change.

The survey will take approximately **8 minutes** to complete.

Privacy and confidentiality

Your participation is completely voluntary. You may stop at any time without giving a reason, and there are no consequences if you choose not to participate or to withdraw. **Your responses will be collected anonymously and treated with strict confidentiality.** We do not collect any personal data that can identify you. The data will only be used for academic research purposes and handled in accordance with GDPR and the ethical guidelines of Erasmus University Rotterdam.

Ethics Approval

This study has been reviewed and approved by the Ethics Committee of Erasmus University Rotterdam. If you have any questions before or after completing the survey, you may contact the researcher at 521825sa@eur.nl.

Do you confirm that you are **18 years or older** and that you **consent** to participate in this research?

Consent Question

Skip to

End of Survey if I do not agree Is Selected

If you understand the information above and freely consent to participate in this study, click on the "I agree" button below to start the survey.

I agree

I do not agree

Import from library

Add new question

Appendix B – Survey

News Media use

Traditional use 💡 ★

How often do you use the following medium/ media to keep up with the news

	Never	Less than once a month	a couple of times a month	a couple of times a week	almost daily
Printed national newspaper (De Telegraaf, The Washington Post)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Printed regional newspaper (Het Parool, The Los Angeles Times)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Printed opinion magazines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Printed topic-specific magazines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Television news broadcasts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Radio news programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

Cross use 💡 ★

How often do you use the following medium/ media to keep up with the news

	Never	Less than once a month	a couple of times a month	a couple of times a week	almost daily
Website of national newspapers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Website of regional newspapers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other news websites	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Twitter/ X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
YouTube	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Instagram	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reddit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

 Import from library


[+ Add new question](#)


No manipulation traditional

N_Trad News article

Please read the following news article from 'De Volkskrant' (Dutch printed national newspaper)

**New Climate Scenario Raises Concerns:
Colder Future for The Netherlands?**
Friday, April 25 - 06:30

 Peter van Oort
Journalist in economics and environment



Instead of becoming warmer, the Netherlands might actually face colder weather in the coming decades. This new climate scenario is currently being studied by a task force set up by the Ministry of Infrastructure and Water Management.

Experts from The Royal Netherlands Meteorological Institute (KNMI) are exploring what a cooler Dutch climate could mean. Although most climate models still predict rising global temperatures due to greenhouse gas emissions, recent findings suggest that changes in the Atlantic Gulf Stream could cause regional cooling in parts of Europe.

This colder scenario goes against years of climate expectations and highlights growing concern among scientists about how ocean currents may affect local climates, even in a warming world.

Source – De Volkskrant

Page Break

N_Trust Volkskrant

☐
☒
☐

To what extent do you agree with the following statements about **De Volkskrant** reporting about climate change article you just read

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
De Volkskrant is fair when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De Volkskrant is unbiased when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De Volkskrant tell the whole story when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De Volkskrant is accurate when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De Volkskrant separates facts from opinions when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

N_Trust journalist

☐
☒
☐

To what extent do you agree with the following statements about **the journalist** reporting about climate change article you just read

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The journalist is fair when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The journalist is unbiased when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The journalist tell the whole story when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The journalist is accurate when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The journalist separates facts from opinions when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

N_Trust content

☐
☒
☐

To what extent do you agree with the following statements about **the content** reporting about climate change article you just read

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The content is fair when covering climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The content is unbiased when covering climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The content tells the whole story when covering climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The content is accurate when covering climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The content separates facts from opinions when covering climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>


No manipulation cross-media

Cross news article


Please read the following news article from 'Nu.nl' (Dutch news website)

**New Climate Scenario Raises Concerns:
Colder Future for The Netherlands?**

Friday, April 25 – 06:30



Peter van Dries
Journalist in economics and environment



Instead of becoming warmer, the Netherlands might actually face colder weather in the coming decades. This new climate scenario is currently being studied by a task force set up by the Ministry of Infrastructure and Water Management.

Experts from The Royal Netherlands Meteorological Institute (KNMI) are exploring what a cooler Dutch climate could mean. Although most climate models still predict rising global temperatures due to greenhouse gas emissions, recent findings suggest that changes in the Atlantic Gulf Stream could cause regional cooling in parts of Europe.

This colder scenario goes against years of climate expectations and highlights growing concern among scientists about how ocean currents may affect local climates, even in a warming world.

Source – Nu.nl

N_Trust Nu.nl



To what extent do you agree with the following statements about **Nu.nl** reporting about climate change

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Nu.nl is fair when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nu.nl is unbiased when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nu.nl tell the whole story when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nu.nl is accurate when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nu.nl separates facts from opinions when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

N_Trust journalist



To what extent do you agree with the following statements about **the journalist** who wrote the news article on climate change you just read

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The journalist is fair when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The journalist is unbiased when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The journalist tell the whole story when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The journalist is accurate when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The journalist separates facts from opinions when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

N_Trust content



To what extent do you agree with the following statements about **the content** of the news article reporting about climate change you just read

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The content is fair when covering climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The content is unbiased when covering climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The content tells the whole story when covering climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The content is accurate when covering climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The content separates facts from opinions when covering climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Trad news article

Please read the following news article from 'De Volkskrant' (Dutch printed national newspaper)

**New Climate Scenario Raises Concerns:
Colder Future for The Netherlands?**

Friday, April 25 - 06:30



Peter van Driel
Journalist in economics and environment



Instead of becoming warmer, the Netherlands might actually face colder weather in the coming decades. This new climate scenario is currently being studied by a task force set up by the Ministry of Infrastructure and Water Management.

Experts from The Royal Netherlands Meteorological Institute (KNMI) are exploring what a cooler Dutch climate could mean. Although most climate models still predict rising global temperatures due to greenhouse gas emissions, recent findings suggest that changes in the Atlantic Gulf Stream could cause regional cooling in parts of Europe.

This colder scenario goes against years of climate expectations and highlights growing concern among scientists about how ocean currents may affect local climates, even in a warming world.

Source – De Volkskrant

Trad + SMI

A social media influencer has shared their thoughts on the news piece. Read their commentary below ↓



Sophie Jansen
@SophieJansen

🔥🌨️ Last year it was heatwaves, now we're prepping for snowstorms? Climate change is a natural phenomenon, it's going to happen no matter what we do. Scientists and activists are exaggerating how bad things will get, and it's not like slightly cooler temperatures will cause any real harm. These warnings are often overblown for attention and funding!
[#climatepolitics](#) [#climatechange](#) [#onyouforfunding](#)

Trust Volkskrant

To what extent do you agree with the following statements about **De Volkskrant** reporting about climate change

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
De Volkskrant is fair when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De Volkskrant is unbiased when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De Volkskrant tell the whole story when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De Volkskrant is accurate when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De Volkskrant separates facts from opinions when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

Trust Journalist

To what extent do you agree with the following statements about **the journalist** who wrote the news article on climate change

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The journalist is fair when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The journalist is unbiased when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The journalist tell the whole story when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The journalist is accurate when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The journalist separates facts from opinions when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

Trust Content

To what extent do you agree with the following statements about **the content** of the news article reporting about climate change

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The content is fair when covering climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The content is unbiased when covering climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The content tells the whole story when covering climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The content is accurate when covering climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The content separates facts from opinions when covering climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Import from library

Add new question

Cross media mani

Please read the following news article from 'Nu.nl' (Dutch news website)

**New Climate Scenario Raises Concerns:
Colder Future for The Netherlands?**

Friday, April 25 - 08:30



Peter van Zuijdam
Journalist on economics and environment



Instead of becoming warmer, the Netherlands might actually face colder weather in the coming decades. This new climate scenario is currently being studied by a task force set up by the Ministry of Infrastructure and Water Management.

Experts from The Royal Netherlands Meteorological Institute (KNMI) are exploring what a cooler Dutch climate could mean. Although most climate models still predict rising global temperatures due to greenhouse gas emissions, recent findings suggest that changes in the Atlantic Gulf Stream could cause regional cooling in parts of Europe.

This colder scenario goes against years of climate expectations and highlights growing concern among scientists about how ocean currents may affect local climates, even in a warming world.

Source - Nu.nl

Cross + SMi

A social media influencer has shared their thoughts on the news piece. Read their commentary below ↓



Sophie Jansen @SophieJansen

🌨️ Last year it was heatwaves, now we're prepping for snowstorms?
Climate change is a natural phenomenon, it's going to happen no matter what we do.
Scientists and activists are exaggerating how bad things will get, and it's not like slightly cooler temperatures will cause any real harm. These warnings are often overblown for attention and funding!
[#climatepolitics](#) [#climatechange](#) [#oryforfunding](#)

M_Trust news type



To what extent do you agree with the following statements about **Nu.nl** reporting about climate change

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Nu.nl is fair when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nu.nl is unbiased when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nu.nl tell the whole story when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nu.nl is accurate when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nu.nl separates facts from opinions when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

M_Trust journalist



To what extent do you agree with the following statements about **the journalist** reporting about climate change

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The journalist is fair when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The journalist is unbiased when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The journalist tell the whole story when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The journalist is accurate when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The journalist separates facts from opinions when covering the news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

M_Trust content



To what extent do you agree with the following statements about **the content** reporting about climate change

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The content is fair when covering climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The content is unbiased when covering climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The content tells the whole story when covering climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The content is accurate when covering climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The content separates facts from opinions when covering climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Demographics

☐ Age

How old are you?

☐ Gender

How do you describe yourself?

☐ Female
☐ Male
☐ Other (please specify)
☐ Prefer not to say

Page Break

☐ Education level

What is the highest educational level you have completed?

☐ Less than high school diploma
☐ High School degree or equivalent
☐ Middle vocational education (MBO/MTS)
☐ Higher vocational education (HBO/HTS)
☐ Bachelor's degree (e.g. BA, Bsc.)
☐ Master's degree (e.g. MA, MSc.)
☐ Other (please specify)

☐ Employment status

What **best** describes your employment status over the last three months?

☐ Working full-time
☐ Working part-time
☐ Unemployed and looking for work
☐ Stay-at-home parent
☐ Student
☐ Retired

Nationality
List of Countries

What is your nationality?

Climate Interest

How interested are you in information or news about climate change?

Interest level

not at all interested
slightly interested
moderately interested
very interested
strongly interested

☐
☐
☐
☐
☐

Import from library
Add new question

Add Block

End of Survey

We thank you for your time spent taking this survey.

Your response has been recorded.


Appendix C – Fictional SMI commentary



Sophie Jansen 
@SophieJansen

😬😬 Last year it was heatwaves, now we're prepping for snowstorms?
Climate change is a natural phenomenon, it's going to happen no matter what we do.
Scientists and activists are exaggerating how bad things will get, and it's not like slightly cooler temperatures will cause any real harm. These warnings are often overblown for attention and funding!!
[#climatepolitics](#) [#climatechange](#) [#cryforfunding](#)

Appendix D – Original NOS news article



nieuwsuur Klimaat 

Vrijdag 25 april, 06:30

Nieuw klimaatscenario baart onderzoekers zorgen: juist kouder Nederland



Marijn Duintjer Tebbens
verslaggever

Niet warmer, maar wellicht juist een kouder Nederland. Dat is een nieuw scenario dat het ministerie van Infrastructuur en Waterstaat in alle stilte laat onderzoeken. Een werkgroep met experts van de TU Delft, kennisinstituut Deltares en het KNMI brengt de gevolgen van een koeler klimaat in Nederland nu in kaart.

"Met de kennis van nu is het meest waarschijnlijke scenario nog steeds dat het warmer gaat worden. Alleen is dit een nieuw inzicht dat we niet kunnen negeren", zegt Deltacommissaris Co Verdaas die de werkgroep leidt. Een inzicht met verstreckende gevolgen. Omdat de veiligheid van waterland Nederland mogelijk in het geding is, leidt de Deltacommissaris de werkgroep.

Door de uitstoot van broeikasgassen warmt de aarde op en ook voor Nederland betekent dat hogere temperaturen. Dat is al decennia de boodschap van klimaatwetenschappers. Maar inmiddels is er ook een scenario waarin het de komende decennia juist kouder kan worden. Dat heeft alles te maken met veranderingen in de Atlantische Golfstroom.

Lopende band warm water

Dat zit zo: de Atlantische Golfstroom is onderdeel van een wereldwijd systeem zeestromen die een belangrijke rol spelen bij het beïnvloeden van de temperatuur op land. Dat systeem, genaamd de Atlantische Meridionale Overturning Circulatie (AMOC) transporteert als een soort lopende band warm water vanuit de oceanen rond de evenaar naar Noordwest-Europa. Daarom heeft Nederland bijvoorbeeld een veel milder klimaat dan Canada, dat op dezelfde breedtegraad ligt.

Kijk hier hoe dat werkt:



Het is al langer bekend dat de opwarming van de aarde invloed heeft op dit complexe transportsysteem. De kans dat de Atlantische Golfstroom als gevolg hiervan geheel zou stilvallen, werd lange tijd als zeer klein ingeschat. Maar de laatste jaren tonen nieuwe klimaatmodellen wel degelijk dat scenario.

Metingen in zee duiden erop dat de Golfstroom al afzwakt. Al zijn er ook studies die concluderen dat het volledig stilvallen van de AMOC in deze eeuw nog geen uitgemaakte zaak is.

Nog onzeker

"We weten niet zeker of het gaat gebeuren, dat is waar", zegt KNMI-oceanograaf Sybren Drijfhout. Hij doet al dertig jaar onderzoek naar de Golfstroom en hield onlangs een presentatie op het ministerie van Infrastructuur en Waterstaat. "We zijn bezorgd omdat we vijf jaar geleden dachten dat dit een onwaarschijnlijk rampenscenario was. Maar met de nieuwste klimaatmodellen zien we opeens dat de kans echt een stuk groter is."

Minister Barry Madlener is nog niet op de hoogte gesteld van de gesprekken met onderzoekers "omdat het gaat om uitzoekwerk dat nog loopt", laat een woordvoerder weten. "Het ministerie vindt het belangrijk om dergelijke signalen met de mogelijke impact voor Nederland goed in beeld te hebben. De Deltacommissaris vindt dat ook, daarom trekken we samen op."

Radicaal ander klimaat

Mocht de Atlantische Golfstroom daadwerkelijk stilvallen, dan leidt dat tot een radicaal ander klimaat in Nederland en in Noordwest-Europa. Het zou leiden tot meer droogte, zwaardere stormen, dalende landbouwopbrengsten en een nog hogere zeespiegelstijging.

De eerste gevolgen zouden binnen tien tot twintig jaar al merkbaar kunnen zijn, zegt Drijfhout. "De stap naar maatregelen is nog niet gezet, maar we moeten nu al kijken naar zeewering, landbouw en droogteproblematiek."



We weten niet of we het kunnen terugdraaien.

— Sybren Drijfhout, oceanograaf

Dat Nederland juist kouder kan worden, is na decennia van berichten over een warmer klimaat best een ingewikkelde boodschap, erkent ook Deltacommissaris Verdaas. "De bandbreedte van onzekerheden is gewoon groot en dit is een van de mogelijke opties. Leuker kan ik het niet maken, maar we hebben ons daartoe te verhouden."

En denken dat de mogelijke afkoeling de opwarming opheft, met wellicht weer kans op een jaarlijkse Elfstedentocht, is volgens de Deltacommissaris te beperkt. "Als je de andere effecten, ook in de rest van de wereld, op waarde schat, zal het echt minder gezellig worden", zegt hij.

Onderzoek

Als dit scenario uitkomt, zullen ook elders in de wereld [\[2\]](#), zoals in Azië en India, de regenpatronen veranderen. De werkgroep zoekt daarom uit "wat we weten, wat er nog in onderzoek is en wat we te doen hebben op de korte en lange termijn", zegt Verdaas.

Kan het stilvallen van de Golfstroom nog worden voorkomen? "We weten niet of we het kunnen terugdraaien", zegt oceanograaf Drijfhout. "Maar met meer CO₂ en broeikasgassen neemt de kans wel toe dat dit scenario uitkomt."

Er lopen nog andere onderzoeken die een gedetailleerder beeld moeten geven van de gevolgen van een stilvallende Golfstroom op de temperatuur, neerslag en zeespiegelstijging. Die publicaties worden de komende maanden verwacht.

Eerder maakte NOSop3 deze video over de AMOC:



Appendix E – AI declaration statement

Declaration Page: Use of Generative AI Tools in Thesis

Student Information

Name: Sthephanie Angela

Student ID: 521835

Course Name: Master Thesis CM5000

Supervisor Name: Prof. dr. Marc Verbood

Date: 25-06-2025

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).
- ~~Writing improvements, including~~ 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 ChatGPT, SORA, 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.

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

Signature: Sthephanie Angela
Date of Signature: 25-06-2025

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-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: Stephanie Angela
Date of Signature: 25-06-2025