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Climate change lifestyle narratives among Norwegian citizens: A linguistic analysis of survey discourse

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Abstract

The present study proposes an analysis of climate change (CC) narratives in answers to an open-ended survey question, where we ask what a climate-friendly lifestyle may imply. The representative survey has been conducted online by the Norwegian Citizen Panel/DIGSSCORE, located at the University of Bergen. The survey provided 1,149 answers from respondents across Norway. The analysis combines a lexical and a text linguistic approach (Fløttum & Gjerstad, 2017), based on Adam's (2008) analysis of the narrative text sequence (initial situation–complication–(re)action–resolution–final situation), and inspired by the Narrative Policy Framework's (NPF) notions of plot and narrative characters (Jones et al., 2014). Our analysis identified four main topics: consumption, transportation, politics, and energy, while the cast of characters is dominated by the first-person singular, frequently portrayed as hero, and the first-person plural in a predominantly villainous role. The frequent use of negation and argumentative connectives reflects the contentious nature of the issue.

KEYWORDS

climate change, lifestyle, linguistics, narratives, polyphony

摘要

本研究提出一项气候变化 (CC) 叙事分析, 以回答一个开放性调研问题: 气候友好型生活方式意味着什么?这项代表性网络调研由卑尔根大学成立的挪威公民小组 (Norwegian Citizen Panel) 执行, 该小组是数字社会科学核心设施 (DIGSSCORE) 的关键部分。调研收集了1149个来自全挪威的参与者回答。分析结合了词汇和文本语言学方法 (Fløttum & Gjerstad 2017) , 基于Adam(2008)的叙事文本次序分析 (初始情景—复杂化— (再) 行动—解决—最终情景) , 并由叙事政策框架 (NPF) 的情节和叙事角色概念 (Jones et al. 2014) 所启发。我们的分析识别了四个主题: 消费、运输、政策和能源, 尽管叙事角色由第一人称单数所主导, 经常被描绘为正面人物, 第一人称复数却基本被描绘为反面角色。否定和论证连接词的频繁使用反映了该议题的争议性质。

关键词

气候变化, 生活方式, 叙事, 多音(polyphony), 语言学

Resumen

El presente estudio propone un análisis de las narrativas del cambio climático (CC) en respuestas a una pregunta de encuesta abierta, donde preguntamos qué puede implicar un estilo de vida amigable con el clima. La encuesta representativa ha sido realizada en línea por el Norwegian Citizen Panel / DIGSSCORE, ubicado en la Universidad de Bergen. La encuesta proporcionó 1.149 respuestas de encuestados de toda Noruega. El análisis combina un enfoque léxico y uno lingüístico del texto (Fløttum & Gjerstad 2017), basado en el análisis de Adam (2008) de la secuencia narrativa del texto (situación inicial-complicación-(re) acción-resolución-situación final), e inspirado en el Nociones de trama y personajes narrativos del Narrative Policy Framework (NPF) (Jones et al. 2014). Nuestro análisis identificó cuatro temas principales: consumo, transporte, política y energía, mientras que el elenco de personajes está dominado por la primera persona del singular, frecuentemente retratada como héroe, y la primera persona del plural en un papel predominantemente villano. El uso frecuente

de conectivos de negación y argumentación refleja la naturaleza contenciosa del tema.

Palabras clave

cambio climático, estilo de vida, narrativas, polifonía, lingüística

1 | INTRODUCTION

This study investigates the linguistic and narrative structures of answers by Norwegian citizens in a public survey asking the following question in the spring and summer of 2020:

> There are several ongoing discussions on how people can adapt their way of life to climate change. In your opinion, what does it mean to live in a climate-friendly manner? Please write down the first thing that comes to mind. We want all kinds of answers, be it a couple of sentences, or just a few words if you prefer.[1]

The survey was the LINGCLIM[2] research group's fifth study of climate change (CC) opinions conducted in collaboration with the Norwegian Citizen Panel (NCP).[3] Our previous NCP studies (see Tvinnereim & Fløttum, 2015; Tvinnereim et al., 2017) have shown a limited and recurring set of topics among respondent's answers. In the first of these surveys, CC was conceptualized by respondents in terms of weather/ice, future/consequences, money/consumption, and attribution. Such topical clustering indicates that the issue of CC is largely the object of shared mental representations in the Norwegian population, which serves as a concrete illustration that texts and utterances on CC circulating in the public sphere shape individual responses. Furthermore, several earlier studies have shown that discourse on climate change has an underlying narrative structure, across both languages and genres (Fløttum & Gjerstad, 2017; Fløttum et al., 2020; Gjerstad, 2020; Gjerstad & Fløttum, 2017). This indicates that CC, as other policy issues, is conceptualized as a story, comprising a setting, a plot, a policy solution (or moral), and a cast of characters (see Jones et al., 2014). Combining the notions of linguistic polyphony and narrative, we also see that individual narratives echo previous ones, through agreement, disagreement, or simply the tacit semantic traces of previous text and talk (Fløttum et al., 2020; Gjerstad, 2020).

Our analysis will be guided by the following questions: To what extent are the responses similar to each other, in terms of both content and narrative structure, and what kinds of individual variations do we find, both linguistically and text structurally? In other terms, how do the climate change lifestyle narratives converge or diverge, in terms of both narrative stages and the cast of characters? And finally, how do individual narratives signal agreement or disagreement with others, through the use of polyphonic markers such as negation and concessive connectives?

Our main theoretical tools will be Fløttum and Gjerstad's text linguistic approach to the analysis of climate change narratives (Fløttum & Gjerstad, 2017), in combination with the Narrative Policy Framework (Jones et al., 2014). In addition, our approach of combining a narrative perspective with polyphonic analysis will expand the scope of narrative analyses to encompass various aspects of argumentation. More specifically, by studying phenomena such as reported speech, negation, and

argumentative connectives, we can see how a narrative can adopt, refute, or concede to elements of other narratives, thereby identifying traces of the CC debate at a societal level. Thus, while this is not the first national study of open-ended surveys on climate and lifestyle (cf. Fløttum et al., 2021), it is most likely the first to combine lexical, narrative, and polyphonic analyses.

In the following, we will first propose a brief overview of research on CC and public opinion, related to lifestyle issues (2), before presenting the theory and method used in the study (3). Section 4 will present the results, first the quantitative results, before going into the qualitative analysis of individual survey answers. In the last section (5), we will discuss the results in light of the research questions listed above.

2 | BRIEF OVERVIEW OF RESEARCH ON PUBLIC OPINION RELATED TO LIFESTYLE IN A CLIMATE CHANGE PERSPECTIVE

This overview is limited to studies undertaken by the LINGCLIM research group in close collaboration with the Norwegian Citizen Panel/DIGSSCORE (NCP), a representative research-purpose Internet panel, with over 6,000 active participants. The NCP is an infrastructure for advanced social science data collection and multi-disciplinary research (https://digsscore.uib.no).

Since 2012, the research group has undertaken research on linguistic representations of different kinds of climate change (CC) discourse, as well as their individual and collective interpretations. The aim has been to develop more awareness of the role of language and communication in the CC debate and to provide a needed contribution to the knowledge base on which societal and political decisions related to CC, energy transition, and lifestyle issues are/should be founded. The research has been realized through a cross-disciplinary collaboration, where different disciplines have been involved at different stages: linguistic, literary, political, psychological, media, and climate sciences. Much of the research has focused on textual perspectives, exploring narrative and argumentative structures, and identifying roles such as hero, villain, and victim.

While climate change communication has been an object of study since the 1990s—first within psychology, and then within social sciences, linguistic analysis approaches have developed in particular since the beginning of the 21st century. The seminal paper by Nerlich et al. (2010) on theory and language of climate change communication is crucial in this context, constituting a milestone and a reference point for subsequent research. The authors state that "[i]nvestigations of climate change communication cannot avoid attending to the role of language".

In the present paper, we draw on experiences from the collaboration with NCP in undertaking national, representative opinion surveys and experiments, related to the interest in people's, that is, non-experts', interpretation of climate change discourses: how do non-expert citizens interpret the climate issue and how has the perspective of lifestyle been integrated in their interpretations? This research has been to a large extent based on open-ended questions (Stoneman et al., 2012), providing a material of rich and nuanced text answers, which invite to both quantitative machine analyses as well as to more qualitative linguistic approaches. Most importantly, these surveys and experiments have also provided valuable further insights into the societal complexity of CC. In the following, we present three studies, where questions have developed from being quite general to more specific, providing answers with traces of lifestyle issues, and leading to the question asked in 2020 (see Introduction).

The first open question, from 2013, was formulated as follows: *What comes to mind when you hear or read the expression 'climate change'?* Regarding the analysis of the obtained 2,115 answers (with a total of 21,470 words), we used Structural Topic Modelling (Roberts et al., 2014) combined with

in-depth linguistic studies. The findings indicated that Norwegians associate primarily the following topics with CC: (1) weather and ice melting (not very surprising), (2) worry about the future and the impacts of CC, (3) a discussion about the causes of CC, often referred to as attribution, and (4) exaggerated damaging consumption. In this last topic category, there were clear references to the problems caused by modern lifestyle (for more details, see Tvinnereim & Fløttum, 2015).

Then, discussions about solutions to the challenges of CC became steadily more frequent in public and political debates, and we asked a new open question in 2015: *When it comes to CC, what do you think should be done?* This provided an important material of 4,634 textual responses (93,952 words). In the analysis of the material, more or less the same approaches as in the study just mentioned were used. The findings were summarized in seven topics, as proposed solutions by the citizens: (1) transportation, (2) energy transition, (3) attribution of climate change, (4) emission reduction, (5) the international dimension, (6) government measures, and (7) lifestyle/consumption. The focus on lifestyle was more obvious in this survey than in the one from 2013. Furthermore, we found that men seemed to externalize the solutions to climate change, emphasizing energy policies, the international dimension, and discussions about the causes of climate change, while women to a larger extent seemed to understand climate action as an issue involving individual behavior, calling for better public transportation and lifestyle changes. Overall, the results suggested a willingness to accept stronger mitigation action, but also that central and local governments need to facilitate low-carbon choices, bridging policy, and individual action to mitigate climate change and to focus on consumption and lifestyle (for more details, see Fløttum, 2017; Tvinnereim et al., 2017).

As the question of individual versus political action gradually grew more important, it became essential to know more about individuals' possible willingness to contribute to the CC issue, particularly their willingness to change (or not) their way of life, and thus to get beyond the often heard and quite easy response "we should all contribute" (see Fløttum, 2017). The following experiment was set up in 2018, still within the NCP:

To prevent or limit harmful climate change, it is argued from time to time that we as individuals must contribute by changing our way of life. Do you agree or disagree with this? We would like to ask you to state the reason for the answer you just gave. Concerning the results, it is first worth mentioning that a large majority, 89 percent of the 2,025 respondents, answered that they agreed with the statement, and of these, 1,446 respondents gave a justification for their reply. Then, through a mixed-methods approach (content and linguistic/discursive analysis), seven themes among the answers were identified. The paper concludes that justification of lifestyle choices depends on questions related to the causes of climate change, the importance (or not) of the contribution of individual action, and moral preoccupations (for more details, see Langaas et al., 2020).

The results of these three surveys, including both general and more specific questions, provided clear traces of various lifestyle issues, as part of the citizens' preoccupations. This new insight constituted the point of departure of a new research question more directly related to what people think it means to live in a climate-friendly manner. A point of departure for this question is that while there seems to be broad agreement on the urgent need for action to mitigate CC, people must also live their daily lives, attending to small and not so small needs and interests of themselves, their families, and community.

As indicated in the Introduction, the responses to this question constitute the main material of the present paper. The 1,149 responses were collected through the NCP's 18th survey (see above), that was fielded during July 2020. The material includes 20,336 words, which gives an average of approximately 18 words per answer. However, among the 1,149 answers, there is a diversity in both length and linguistic complexity, ranging from just 1 to 205 words.

3 | THEORY AND METHOD

The respondents' answers are analyzed through the prism of narrative theory. The approach is inspired by both the text linguist Adam's analysis of narrative sequences (2008) and the Narrative Policy Framework's (NPF) research on the importance of characters, such as *heroes*, *villains*, and *victims*, in policy narratives (Fløttum & Gjerstad, 2017; Jones et al., 2014).

According to Adam (2008), the prototypical narrative sequence consists of five stages: initial situation, complication, (re)action, resolution, and final situation. At the heart of the narrative are the three dynamic middle stages driven by causal mechanisms, which include characters' actions. The narrative arch represented by the five stages is illustrated in example (1) (Fløttum & Gjerstad, 2017; Gjerstad & Fløttum, 2017). This short narrative is constructed for illustrative purposes, but highlights the relevance of the narrative perspective for the study of discourse on climate change, which constitutes a major disruption demanding concerted action by actors around the globe. In a narrative of such high stakes, heroes, villains, and victims play a central role, displaying different perspectives of responsibility (both for causes and solutions):

(1)
1. Initial situation: Human beings lived in harmony with nature.

2. Complication: CO_2 emissions have increased dramatically since 1990 and have caused serious climate change.

3. Reaction: The UN organises international summits (COPs) to discuss action on CC.

4. Resolution (Outcome): At the Paris climate conference (COP21) in December 2015, 195 countries adopted the first-ever universal, global climate agreement.

5. Final situation: CC still constitutes a serious threat to the Planet and future generations, and those who have contributed least to the problems are the ones most vulnerable to the consequences.

When analyzing the stages composing such a narrative, the primary focus is on its temporal and causal structure. In this regard, it differs from the perspective of the NPF, which analyses narratives according to their *setting, plot, and moral* (Jones et al., 2014), where the plot encapsulates the temporal succession of events. The terminological toolbox of the NPF thus serves to situate characters in relation to the beginning, middle, and end of a policy narrative, not to provide detailed analyses of the temporal and causal structures that constitute the narrative arch. In other terms, the NPF is less concerned with analyzing the relations between events, than with how these events affect and are driven by characters (see Fløttum & Gjerstad, 2017, Jones et al., 2017:50–51). Despite these differences, the five-stage approach and the NPF share the same fundamental view of policy narratives as a conflict between characters regarding political action, which means that they are epistemologically compatible, if "not perfectly congruent" (Jones et al., 2017:51). In fact, they have previously been combined to design climate change narratives for experimental purposes (see Jones et al., 2017). In the present study, the analysis combines Adam's five narrative stages with the set of characters that, according to the NPF, are the most prominent in policy narratives, namely heroes, villains, and victims (for more on the power of characters in shaping policy preferences, see Jones, 2013, 2014). While our text linguistic approach mainly studies the structure and content of narratives at the micro-level of individuals, the inclusion of the NPF also provides the theoretical tools to consider narratives as institutional and societal phenomena, that is, at the level of policy actors such as coalitions and organizations (meso-level), as

well as institutions and culture (macro-level) (Shanahan et al., 2018). In the context of national surveys such as the NCP, the macro-level seems particularly relevant. However, such a combination requires theoretical and methodological developments that exceed the scope of the present study.

Let us consider our theoretical perspective in the context of the NCP survey, where the question itself lays the groundwork for narrative creation, by presupposing the complication (climate change), and asking the respondents to construct the (re)action phase: "There are several ongoing discussions on how people can adapt their way of life to climate change. In your opinion, what does it mean to live in a climate-friendly manner?" How do the survey answers construct this (re)action? What are the general tendencies in terms of topics (e.g., consumption, travel, energy), and concrete measures that respondents advocate? Conversely, do we find other narrative structures than the complication–reaction structure that is primed by the question, and do we find different sets of characters in the narratives?

Furthermore, recent research has shown that texts can include traces of other narratives through different linguistic mechanisms (Fløttum & Gjerstad, 2017; Gjerstad, 2020). In other words, polyphony, or multivoicedness, plays an integral part in the complexity of policy narratives. According to the Scandinavian Theory of Linguistic Polyphony, or ScaPoLine (Nølke et al., 2004), there is a large variety of linguistic markers signaling the presence of voices other than that of the speaker or author at the moment of utterance. Among such markers are reported speech, epistemic markers (such as the adverb *maybe*), argumentative connectives (*so, but, however,* etc.), and negation, such as in example (2) (emphasis ours):

(2) It's **not** possible to live in a climate-friendly way in the world today on your own. In order to live in a climate-friendly way, it's **not** enough just to do this on your own. There is a need for climate-friendly choices at a global level. I think this needs to be done by drastically reducing international trade and travel, and by reorienting consumption towards reusing and repairing damaged products. Choices by individuals have no effect other than symbolism.[4]

The negations serve to refute the underlying points of view (pov) according to which it is possible to live in a climate-friendly way. While the source of these pov is not linguistically present, the negation could be interpreted as a refutation of a presupposition embedded in the survey question (i.e.,
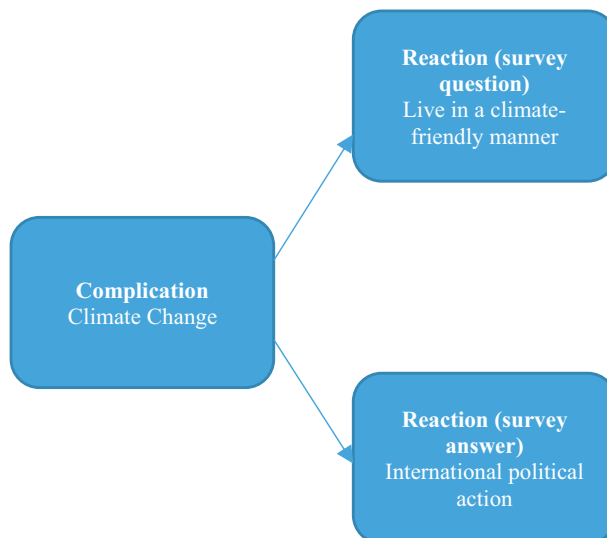

FIGURE 1   Diverging reactions through negation

TABLE 1 Lexical items divided by semantic category

Consumption			Transportation		Politics		Energy	
Food and food waste	**Use and discard**	**Reuse and recycling**	**Long-haul**	**Short-haul**	**National politics**	**International politics**	**Fossil /unspecified**	**Renewable**
Food	Buy	Reuse	Airplane	Car	Politicians	Norway	Energy	Renewable
Food waste	Consumption	Recycle	Air travel	Driving	Politics		Electricity	Solar panel
Eat	Consume	Sustainable	Travel	Bicycle			Fossil fuel	Wind power
Meat	Discard	Repair	Train	Electric car			Oil	
Meat consumption	Trash	Sorting	Holiday	Public transport			Coal	
Fish	Clothing							
	Plastics							
	Production							
	Waste							
607	1,157	334	506	929	25	30	193	34
2098			1,435		55		227	
55%			38%		1%		6%	

that "it IS possible"), with the further implication that action to curb climate change must take place at a political level. In a narrative perspective, there is thus a deviation between the narrative of the respondent's answer and that of the survey question (Figure 1):

What other voices do we find in the survey answers, and to what extent can they be interpreted as traces of converging or diverging narratives? In other terms, to what extent can we find traces of the societal debate around climate change and lifestyle in the survey answers?

Combining a quantitative and qualitative approach, the analysis starts with an overview of the frequency of lexical items that pertain to the issue of climate change and lifestyle, divided into a set of semantic categories, or topics: consumption, transport, politics, and energy. Counting the number of occurrences within each semantic category lets us ascertain their relative prevalence within the material, indicating what Norwegians consider as the most important factors when trying to live in a climate-friendly manner. The qualitative analysis will then focus on atypical answers, that is, those that do not conform to the complication–(re)action structure as primed by the survey question, to see how they challenge its presuppositions or exceed its scope, and to identify characters and voices.

4 | ANALYSIS

Around 85 percent of the 1,149 answers enumerate a set of measures to live in a climate-friendly way, without giving any reason for their answer (see example (3)), but around 15 percent engage in reasoned arguments in favor of or in opposition to measures at the levels of both individual, societal, and international action, as in example (4).

(3) Fly less, eat less meat, shop fewer things, reuse.[5]
(4) The climate is only one part of the problem. The elephant in the room is overpopulation and hence overconsumption of the earth's resources. If we want to avoid causing pandemics and wars, there is a need, especially for us in the industrialized part of the world, to radically reduce our consumption. A green future will only obscure the real problem. Overconsumption![6]

Our analysis starts with a quantitative overview of lexical items and their semantic content, in order to observe the relative importance of various aspects of the climate change and lifestyle issues. Table 1 includes the categories, some of the most frequent lexical items, the total number of occurrences within each category, and lastly their distribution in percent.

Table 1 shows that "Consumption" and "Transportation" are by far the most frequent categories, with 3,533 mentions. This constitutes 93 percent of all 3,815 occurrences. Within the two, the subcategories "use and discard" and "short-haul transportation" are the most dominant. Together, these two subcategories appear 2,086 times, thus constituting 55 percent of all occurrences. This indicates that, in the view of Norwegians, these are the most important factors when living in a climate-friendly manner. In other terms, in the typical climate change lifestyle narrative among Norwegians, the reaction component consists mainly of changes in consumption and transportation, with a particular emphasis on possessions and waste, as well as on daily transportation habits.

As numerous NPF studies have shown (e.g., Jones et al., 2014), character roles, notably heroes, villains, and victims, are central to policy narratives. Given the nature of the question asked in the survey, we can expect a prevalence of individual hero characters. But are there also villains and victims? Let us have a look at a set of personal pronouns and noun phrases that could be used to construct characters in the narratives, beginning with *I* (*jeg/eg*) and *me* (*meg*). In example (5), we can see the subtleties of such character construction, as the respondent portrays herself or himself as a past and current villain, and potential future hero:

(5) I should live more modestly than before. Shop less clothes and shoes. Recycling. Use my car less.
I mostly walk or use public transport[7]

In the first sentence of example (5), the respondent is a past and current villain, having had an insufficiently modest lifestyle. However, through the use of the modal verb *should* (*bør*), there is a presupposition of potential positive action on the part of the respondent. The last sentence rounds off the text by constructing the recipient more clearly as a current hero.

Example (6) displays a different nuance, where the first person has no apparent current role, but is a potential future hero:

(6) Travel in the most climate friendly way possible (take the train, electric car/bus), sort waste, reuse products are some of the things I can do.[8]

Table 2 shows the distribution of the first-person pronouns in the various character roles, in total 57 occurrences, taking into account nuances such as in examples (5) and (6).

In fact, the characters are often nuanced, combining past, current, and future roles in single utterances. A character can thus be characterized in different ways at once, for example, as a past and current villain, and at the same time a potential future hero.

Even though there are several nuances in the way respondents portray themselves, the majority of first-person pronoun use falls within the hero category. The variety in Table 2 contrasts with previous analyses of green and white papers, in which governments tend to portray themselves as heroes, in the past, present, and future (Fløttum & Gjerstad, 2013, 2017). This contrast could be explained by the fact that government documents represent a very different genre, in which strategic concerns play a central role, leading to consistently positive self-representation.

In addition to the first-person singular, we have looked at all occurrences of *we* (*vi*) and *us/ourselves* (*oss*). These pronouns can refer to different sets of individuals or collectives, which means that the reference can be specific or general, and often difficult to determine in the absence of sufficient contextual or textual clues. The reference of these pronouns is thus an additional factor in the analysis. This referential variability is illustrated in examples (7) and (8), in which *we* refer to humanity and the respondent's household, respectively:

(7) I'm skeptical regarding the experts' statement on climate change. I think only a small part can be ascribed to the behavior of humans. I think **we** have little capacity to change the climate, the environment is another question.[9]
(8) **We** don't have a car, since we live in a city and not far from others.[10]

Regarding the character roles in the two examples, humanity plays a neutral role in (7), while the household plays a hero role in (8). The latter interpretation is nonetheless mitigated by the fact that the lack of car ownership is due to an absence of need and not motivated by environmental concerns.

As with the first-person singular, the character roles assigned to the first-person plural are quite nuanced, such as in examples (9) and (10):

TABLE 2   Roles attributed to I/me

Past villain–current hero	Past and current villain–potential future hero	Neutral/irrelevant actor	Current hero	Potential future hero	Sum[20]
2	5	10	33	7	57

TABLE 3 References and roles of the pronouns 'we' and 'us/ourselves'

	Past and current villains	Past villains–current heroes	Past and current villains–potential future heroes	Potential future villains	Neutral/irrelevant actor	Current heroes	Potential future heroes	Victims	Sum
Humanity as a politically organized collective	6	–	11	–	2	–	7	–	26
Humanity as a set of individuals	7	1	11	2	10	–	14	2	47
The industrialized world	1	–	1	–	–	–	–	–	2
Norway as a politically organized collective	3	–	13	–	6	–	15	–	37
The Norwegian population	12	1	10	–	6	–	17	–	46
Norway as opposed to the rest of the world	–	–	–	–	3	–	2	–	5
Respondent's household	–	1	–	–	–	9	–	–	10
Respondent's age group	–	–	–	–	–	1	–	–	1
Sum	39	3	46	2	27	10	55	2	184

(9) Moderate **ourselves** in terms of consumption in the widest sense.[11]

The respondent asserts a need for moderation, which presupposes past and current excesses. In other words, there is a duality in the role construction, where the collective is both a past and current villain, and a potential future hero. A similar nuance can be found in example (10):

(10) Both as a society and as individuals **we** need to consume less of the world's resources, limit economic growth and to a larger degree take care of natural diversity.[12]

As in example (5), there is a modal verb (*need*) that constructs an obligation to take on a future positive role, away from the negative impact of past and current behaviors. In example (11), there is also a creation of a future role based on obligation:

(11) (…) for me it's following the usual rules with waste sorting. Not throw anything in nature. I'm not prepared to do anything more drastic. For the average citizen there's not much you can do. Would it for example be possible to stop all private jets. Not allow them to land or alternatively big sums to land, where the money goes to environmental measures. **We** have to start where it makes a difference.[13]

In example (11), the collective appears in the last sentence and takes on the role of potential future heroes. In addition, the individual citizen is portrayed as an irrelevant actor, while the owners of private jets are constructed as villains.

Table 3 gives an overview of the roles and references of *we* and *us/ourselves* in the corpus, 184 occurrences in total. As the categories indicate, these nuances are even more fine-grained than those associated with *I/me* (see table 2):

Regarding the categorizing of occurrences according to reference, there is a subtle and often indistinguishable difference between Norwegians and humanity, preventing any meaningful analytical distinction between the two. However, when looking at humanity and Norwegians together (154 occurrences in total), both as a set of individuals and as a political collective, we get the following numbers (Table 4):

The distinction between past, present, and future roles lets us paint a nuanced picture of the characters in the material. Nearly half of the occurrences can be interpreted as villains, though most are cases in which the collective is portrayed as capable of redemption, in a potential future hero role. Table 4 also shows a conspicuous absence of victims, with only 2 occurrences.[14]

In addition to the first-person singular and plural, there are third-person actors, in the form of nouns and noun phrases, but these are infrequent. Among such actors are individuals and consumers, who appear only 24 times in the corpus. Their roles range from irrelevant actors to villains and potential

TABLE 4 We/us as Norwegians or humanity

Past and current villains	Past villains–current heroes	Past and current villains–potential future heroes	Potential villains	Neutral/irrelevant actors	Current heroes	Potential future heroes	Victims	Sum
26	2	45	2	24	–	53	2	154

heroes. Politicians appear even less frequently, with only 10 occurrences. In only one instance, they are portrayed as villains. There are also 10 occurrences of *authorities* (*myndigheter/myndighetene*), in both a national and international context. National authorities are depicted as villains only once, in conjunction with oil extraction:

(12) It is absolutely reprehensible that the authorities go in for continued oil extraction when this resource is about to be phased out anyway.[15]

Oil and coal are mentioned 25 and 7 times, respectively. Even though these two energy sources are uniformly constructed as negative factors, they are seldom tied to the agency of villains. One exception can be found in example (13):

(13) Last year China opened a new coal power plan that emits as much CO2 as the total emissions of Norway[16]

In this example, China is portrayed as a villain. Such constructions are in fact quite rare in the material. China appears only 6 times, 5 times as the villain, while neither the USA nor any of the larger European countries are mentioned at all. As for victims in the CC narrative, they are also conspicuously absent. The notion of poverty appears only once, in the form of *poor countries*, and future generations appear only 5 times, mostly in the context of arguing for climate-friendly measures.

In this analysis, we have seen that Norwegians tend to think of consumption and transportation as the most important factors in a climate-friendly lifestyle and that this narrative is largely driven by the first-person singular (i.e., the respondent) as a hero, and the first-person plural (i.e., *we* and *us/ourselves*) as the villain. There are few references to third-person actors, and victims are virtually absent.

Even though the broad narrative structure identified in the quantitative analysis seems to represent a largely shared set of beliefs and attitudes among Norwegians, there are significant individual differences, both in the structure and the content of narratives. By means of a variety of linguistic mechanisms, including negation and argumentative connectives, some respondents argue for certain types of measures in opposition to others (see example 14). Others question the framing of the narrative as one of personal lifestyle choices, arguing instead that structural change needs to take place through policy implementation, both nationally and internationally (example 15). And others still challenge the complication of the narrative itself, by denying or toning down the importance of human-induced climate change (example 16). Such narrative complexity is brought about by linguistic polyphony, that is, the meeting of voices representing narratives that respondents engage with, as illustrated by the negations in the following examples:

(14) Less private consumption (clothes, furniture, trips, luxury items, low-budget products. It's **not** environmentally friendly to own an electric car if you have 3 of them. Reuse. Food consumption with seasonal products. Purchasing ecological and locally produced groceries. Don't throw away food. Locally sourced goods produced with the environment in mind. Be conscious of values about what really matters in life and not look for the superficial and brief feeling of happiness via material things[17]

The negation in example (14) refutes an underlying pov according to which "it is environmentally friendly to own an electric car if you have 3 of them." In light of the surrounding text, the negation could be interpreted as an illustration of a more general point, namely that a climate-friendly lifestyle implies less consumption, and not simply a greening of current consumption levels. The content of

the negated sentence could thus be generalized as a confrontation of two competing reactions in the climate change narrative (Figure 2):

The narrative structure brought about by the negation in example (14) resembles that of example (15), which goes even further, by denying the efficacy of individual action that is implied by the survey question itself, in a manner similar to example (2) (see section 2):

(15) Public transport, renewable energy, less meat. I think that individuals are **not** the ones to implement all measures but that the state should draft laws that citizens and businesses need to follow (Figure 3).[18]

(16) Locally produced food, recycling, and seeing that the climate has changed through the ages. We **cannot** freeze the climate, **even though** we may be able to reduce the man-made impact (Figure 4).[19]

In example (16), the respondent states that "the climate has changed through the ages", thereby offering an alternative complication to the one implied by the survey question. The respondent then refutes a potential resolution of the narrative, by stating that "we cannot freeze the climate", before taking a more nuanced position, through the use of the concessive subordinating conjunction *even though* (*selv om*). In other words, this narrative structure includes an implicit narrative with which the survey respondent diverges at the complication and resolution stages, as illustrated in Figure 4.

5 | DISCUSSION AND CONCLUSION

In the introduction, we asked the following questions: To what extent are the responses of the survey similar, in terms of both content and narrative structure, and what kinds of individual variations do we find, both linguistically and text structurally? In other terms, how do the climate change lifestyle narratives converge or diverge, in terms of both narrative stages and the cast of characters? How do individual narratives signal agreement or disagreement with others, through the use of polyphonic markers such as negation and concessive connectives?

Our quantitative analysis revealed both recurring themes and characters. The analysis identified four main semantic categories: consumption, transportation, politics, and energy. Consumption and transportation were the dominant categories, representing 93 percent of all lexical occurrences pertaining to climate change and lifestyle. The relative scarcity of politics and energy in the material does not however indicate that Norwegian citizens disregard these factors when thinking of climate change. Rather, it could be because politics and energy are not immediately relevant to the issue of lifestyle choices. In other words, the framing (Nisbet, 2009) of the survey question, that is, climate change as an issue of individual actions, primes answers that disregard the larger political and socioeconomic structures. When looking at the semantic subcategories, an interesting finding is that respondents were almost twice as likely to mention short-haul transportation as long-haul transportation. This discrepancy could be due to a possible understanding of the expression *levemåte* (*way of life*) among the respondents, as denoting daily habits as opposed to general patterns of behavior. Thus, it does not necessarily indicate that Norwegians discount air travel as a source of emissions, but rather that the wording of the question itself might orient their answers toward choices in their daily lives.

The climate change narratives constructed by the recipients also include characters, most frequently in the form of *I/me* and *we/us*. With a few exceptions, the first-person singular is constructed as a hero, either in the here and now or in a potential future. In fact, *I/me* is a current hero of the climate change narrative in more than 50 percent of cases, and in only 26 percent of cases there are hints of self-criticism, in which the respondent features as a past or current villain, but always with a potential
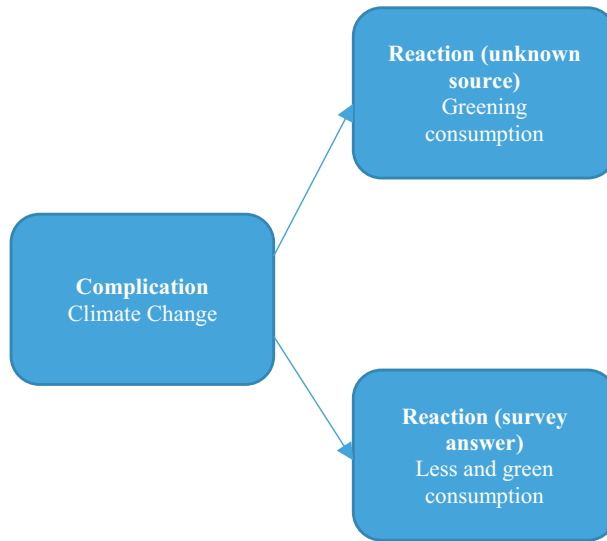
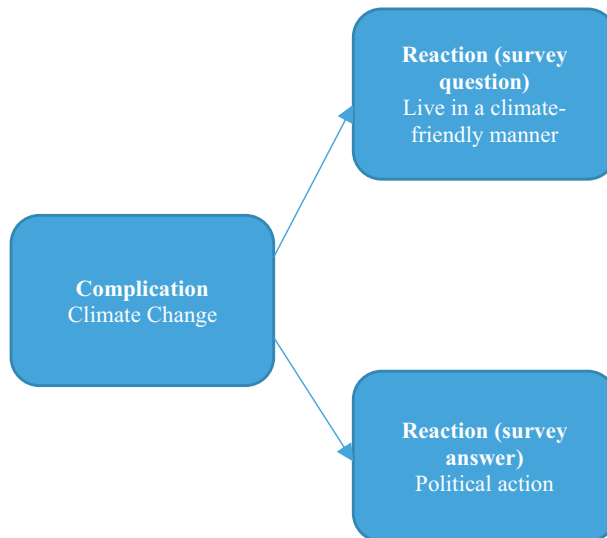**FIGURE 2** Diverging reactions through negation

FIGURE 3 Diverging reactions through negation

future hero role. In other words, respondents tend toward positive self-representation with regard to their own role in fighting climate change. This is even more interesting when compared to the occurrences of the first-person plural, which more often appear as the villains in the narrative. When looking closer at *we/us* referring to Norwegians or humanity, these collectives appear uniformly as villains in 17 percent of cases, while they are partly villainous (e.g., past and current villain, potential future hero) 49 percent of the time. They are in fact never once portrayed as current heroes, and in only one third of cases, they are potential future heroes with no negative characteristics regarding past or current behavior. In short, while the respondents depict themselves as part of a collective playing
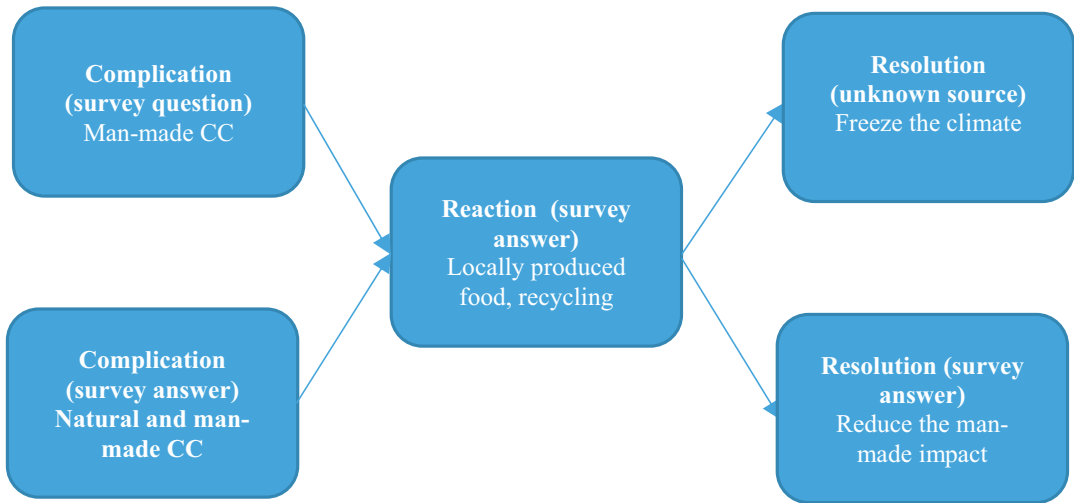
FIGURE 4 Diverging complications and resolutions through negation and concession

mostly a negative role, they tend to cast themselves, as individuals, in a more positive light. However, the first-person plural is cast as *potentially* heroic more than half the time. This indicates that the respondents, while being critical of past and present collective behavior, consider that future mitigation efforts are possible.

It is also worth noting the particularly amorphous reference of the first-person plural, and the impact this has on the narratives. The often villainous nature of *we/us* in the material is mitigated by the fact that it can be difficult to pin down who exactly the villain is, in the absence of clear indicators in the text. This contrasts with the specific nature of nouns and noun phrases referring to third-party actors, which on the other hand are relatively scarce. This disparity could indicate that respondents feel the need not only to assign collective responsibility for climate change, but also to simplify a complex issue. In other terms, when needing to construct a villain in the climate change narrative, respondents are faced with the difficult task of navigating the complexity of this global geophysical and societal issue, if they wish to account for the agency of specific groups or individuals. In this context, *we/us* becomes a general character that can be used when depicting a messy reality. *We/us* could thus be seen as an amorphous collective standing in for more specific actors in a complex global narrative.

Summing up these quantitative findings, we see a shared climate change lifestyle narrative among the Norwegian population, in which citizens, both individually and collectively, are given the responsibility to act to reduce emissions, through changes in transportation and consumption. The cast of characters is relatively sparse, considering the complexity of the issue. Third-person references are infrequent, there are hardly any victims, and the hero character is often played by the first-person singular or plural. In the role of villain, we often find the amorphous *we*, indicating that the Norwegian population is unable or unwilling to blame specific individuals, groups, or institutions when telling the story of climate change and lifestyle.

Lastly, the qualitative analysis revealed both similarities and differences between individual responses, in the form of complex polyphonic narrative structures. The negation is a notable marker in this regard, as it lets the respondents refute elements of other narratives, in order to promote their own. Other salient linguistic markers are concessive connectives and conjunctions (*however, even though, but*), which the respondent can use to admit to elements of other narratives, without accepting their implications. In this way, the climate change narratives constructed by respondents cannot be fully understood without considering the way in which they integrate the narratives of others, in order to

refute, confirm, or modify them. In fact, polyphony seems to be a prominent feature of the survey responses. For every 3 answers, there is 1 negation, and there are 68 instances of concessive markers, which makes more than 1 in every 20 responses. The linguistic properties of the survey answers thus seem to reflect the contentious and multi-faceted nature of lifestyle and climate change as a societal issue.

The qualitative analysis thus helps to untangle the contextual and linguistic complexity of climate change discourse. The analysis situates even short survey answers in a largely shared contextual narrative structure, in which past and current stages are partially implicit while future stages are partially absent or uncertain. Thus, even very short survey answers are interpreted as narratives, since the reading is informed by this contextual structure. Conversely, even embryonic narratives of short survey answers, incorporating typically only the reaction phase of the CC lifestyle narrative, often conceal a narrative complexity in the form of underlying polyphonic structures in which narratives of others come into play, through the use of negation, concession, reported speech, or other linguistic mechanisms. A narrative analysis that considers such phenomena is thus able to unravel not only the dominant narratives in a corpus such as the NCP survey, but also traces of the conflict characterizing the issue at a societal level.

In closing, future narrative analyses of survey discourse could further combine the NPF and the linguistic approach, by including the macro-level. In our view, this level requires additional theoretical work to be fully operational, but considering survey narratives as the collective expression of culturally dominant narratives has valuable theoretical and empirical potential.

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ENDNOTES

[1] Norwegian: *Det foregår mange diskusjoner om hvordan man kan tilpasse sin levemåte til klimaendringene. Hva mener du det innebærer å leve klimavennlig? Vennligst skriv ned det første du kommer på. Vi ønsker alle typer svar, gjerne et par setninger, eller bare noen få ord om det passer bedre for deg.*

[2] https://www.uib.no/en/rg/lingclim

[3] https://www.uib.no/en/digsscore

[4] Norwegian: Det er ikke mulig å leve klimavennlig i verden i dag på egen hånd. For å leve klimavennlig, holder det ikke å bare gjøre dette på egen hånd. Man må gjøre klimavennlige valg på verdensbasis. Jeg mener dette må gjøres ved å drastisk redusere internasjonal handel og reisevirksomhet og vri forbruk over på gjenbruk og reparasjon av ødelagte produkter. Enkeltpersoners valg har ingen effekt ut over symboleffekt.

[5] Norwegian: Fly mindre, spise mindre kjøtt, handle færre ting, gjenbruke.

[6] Norwegian: Klimaet er bare en del av problemet. Elefanten i rommet er overbefolkning og derav overforbruk av jordens ressurser. Om vi ikke skal lage pandemier eller krig, må spesielt vi i den industrialiserte del av verden radikalt redusere vårt forbruk. En Grønn framtid vil bare være et tåketeppe for det virkelige problemet. Overforbruk!

[7] Norwegian: Jeg bør leve mer nøkternt enn før. Handle mindre klær og sko. Avfallssortering. Bruke mindre bil. Jeg går for det meste eller bruke kollektiv.

[8] Norwegian: Reise mest mulig klimavennlig (bruke tog, el-bil/buss), sortere avfall, gjenbruk av produkter er noe av det jeg kan gjøre.

[9] Norwegian: Er skeptisk til ekspertenes uttalelse om klimaendringene. Tror kun en liten del kan tilskrives menneskenes adferd. jeg mener **vi** har liten mulighet til å endre klimaet, da er miljøet noe helt annet.

[10] Norwegian: **Vi** har ikke bil, i og med at vi bor i en by og i nærhet av andre.

[11] Norwegian: Moderere oss på forbruk i videste forstand.

[12] Norwegian: Både som samfunn og enkeltindivider må vi forbruke mindre av jordens ressurser, begrense økonomisk vekst og i større grad ta vare på naturmangfoldet.

[13] Norwegian: (…) for meg er det å følge vanlige regler med sortering av avfall. Ikke kaste noe i naturen. Noe mere drastisk vil jeg ikke gjør. For den vanlige borger er det ikke de store ting en for gjort selv. Kunne en for eksempel stoppet alle private jet fly. Forby dem å lande eventuelt store summer for å lande, hvor pengene går til miljøtiltak. Vi må starte der det monner.

[14] We also looked for differences in the distribution of first-person roles according to topic, for example, positive correlations between hero characters and consumption, and between villain characters and politics. However, the roles were quite evenly distributed between the different topics. In addition, we examined whether there was a correlation between the use of the first person, and the number of solutions proposed by the respondent, but we found no such patterns.

[15] Norwegian: Det er absolutt forkastelig at myndighetene satser på fortsatt oljeutvinning når ressursen uansett skal utfases.

[16] Norwegian: I fjor startet Kina et nytt kullkraftverk som slipper ut like mye CO_2 som hele Norges utslipp.

[17] Norwegian: Mindre privat forbruk (klær, møbler, reiser, luksusartikler, billigvarer. Det er ikke miljøvennlig å ha elbil hvis man har 3 av dem. Gjenbruk Ernæring med matvarer tilhørende sesongen Innkjøp av økologisk, kortreiste matvarer Ikke kast av mat Kortreiste produkter produsert med hensyn til miljøet. Være bevisst på verdier om hva som virkelig er viktig i livet og ikke søke etter overfladisk kortvarig lykkefølelse via materielle ting.

[18] Norwegian: Kollektivtransport, fornybar energi, mindre kjøtt. Jeg mener det ikke er enkeltpersoner som skal ta alle tiltakene, men at staten skal komme med lovverk som borgere og næringsdrivende må følge.

[19] Norwegian: Kortreist mat, gjenvinning, samt å innse at klimaet har endret seg gjennom tidene. Vi kan ikke klare å fryse klimaet, selv om vi kan klare å redusere den menneskeskapte påvirkningen.

[20] There are 96 occurrences of *I* (*jeg*) and 25 occurrences of *me* (*meg*) in the corpus, but many of them are used to state an opinion, such as "I think… " There are also character constructions that are not counted, due to the use of implicit subjects (e.g., "Have stopped using oil furnace").

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