Wissenschafts management
ENTSCHEIDEN.FÜHREN.GESTALTEN

OPEN ACCESS

Dr. Anna Lena Bercht

TACKLING CLIMATE INACTION

How a social identity approach matters to climate communication

Oktober 2020

www.wissenschaftsmanagement.de/open-access/open-access

CASE: Research Communication & Social Behaviour

TACKLING CLIMATE INACTION

How a social identity approach matters to climate communication

We have reached a point where it is impossible to ignore climate change and its impacts – but this does not necessarily imply people are ready to act. As recent research shows, even when people are well-informed about climate change, appraise it as a current, visible, local and personal threat and express concern, their response in terms of facing challenges head on and translating their concern into climate-mitigative, adaptive and transformative behaviour seems restricted.
How does this knowledge-action gap arise? Also, it is striking that people who initially state that they do not worry about climate change, later seemingly contradict themselves by saying the opposite: "I am extremely worried." Why is that? And how should climate change communication be adapted to meet these challenges and encourage climate action? This case is an example for a broader approach of a next level research communication.

Foto: Katrin Mainka

Dr. Anna Lena Bercht
is a human geographer and postdoctoral researcher. Her research lies at the interface of human geography and psychology, with a current focus on climate resilience and psychological barriers to climate action in coastal fisheries.

Case: Introduction

In addressing these initial questions, this case study article seeks to be empirically and conceptually informative and of practical relevance.

- It first provides insight into insufficient climate action among the group of the Lofoten coastal fishers from the Norwegian Arctic.
- Secondly, it illustrates how the prominent social identity approach from social psychology serves as a helpful theoretical lens through which to better understand and explain the reasons behind climate inaction and contradictory statements. Particular emphasis is thereby laid on shifts in self-perception from personal to social identity and of group dynamics on the fishers' behaviour.
- Finally, based on these outlines, work-in-progress ideas for enabling more effective climate communication are presented.

The point of this case (paper) is to encourage readers to reflect more deeply on the underestimated need to tailor climate communication to the requirements of specific audiences. Knowing one's audience and the best means to reach it are key to tackling climate inaction.

Although climate change is today arguably one of the greatest challenges facing humanity, and particularly policymakers and the science community, generally speaking, public engagement with climate mitigation, adaptation and transformation, here broadly termed climate action, still remains insufficient (Dryzek et al. 2013; Marshall 2014; Stoknes 2015; Sussman et al. 2016; Gifford et al. 2018). **People seem to be restricted in their response in terms of facing challenges head on and unlocking their potential to commit to change for a sustainable future,** for example by consuming less energy, changing travel habits and diversifying livelihoods. However, increasing research demonstrates that there is a significant and growing number of local citizens worldwide who are well-informed about global warming processes, believe global warming is happening and consider it an important problem to be addressed.

For example, a large Pew survey on global public opinion about climate change, conducted in 40 countries in 2015, found that most nations polled believe global climate change is a pressing concern[1]. Majorities in all 40 countries view climate change as a serious problem, and a global median of 54 percent regard it as a very serious problem (Pew Research Center 2015). A median of even 78 percent support their country's commitment to reduce greenhouse gas emissions as part of the Paris Agreement adopted in 2015. Moreover, climate change is not considered a distant threat. Across the 40 nations surveyed, 51 percent think people are already being harmed by climate change and another 28 percent expect harm in the next few years. A more recent 26-nation Pew survey from 2018 on how people evaluate eight potential threats shows that majorities in 13 of 26 survey countries see global climate change as the top threat, more than any other potential threat the survey asked about, such as cyberattacks, terrorism from Islamic extremist groups and North Korea's nuclear program (Pew Research Center 2019). And, importantly, as the study further reveals, this concern has increased in recent years: in 2018, a median of 67 percent across the 23 survey countries, which had been analysed over a longer period of time, consider global climate change a major threat to their country, as compared with 63 percent in 2017 and 56 percent in 2013 (ibid.). Likewise, the latest 2016 European Social Survey (ESS), conducted in 23 European countries from 2016 to 2017, indicates that almost every second German aged 15 and older is "very/extremely worried" (ESS 2018, p. 6) about climate change and its impacts.

Nevertheless, despite this considerable agreement on climate issues, it is important to point out that there are still significant differences between regions and countries and within nations, and public opinion still lags behind scientific conclusions (e.g. due to poor education and partisan-ideological or religious divides). For instance, according to the above surveys, in global terms, climate change concerns are more prevalent in Latin America and sub-Saharan Africa than in the USA and China (Pew Research Center 2015) and, in European terms, more predominant in Portugal, Spain and Germany than in Estonia, Poland and the Russian Federation (ESS 2018). Also, the political left is generally much more likely to view climate change as a major threat than the political right (for more sustained reflection on these interrelations see Kahan et al. 2011; Pew Research Center 2015, 2019; Lee et al. 2015, presenting a 119-country survey; as well as Norgaard 2009 on previous studies on knowledge and concern regarding climate change).

The climate of inaction on climate change

Yet, it is striking that people who know about climate change, who appraise it as a current, visible, local and personal threat and who express concern, nonetheless often make little effort to respond and translate their concern into continuous climate-mitigative, adaptive and transformative behaviour (Gifford 2011, 2013; Stoknes 2015).

Yet, with so much at stake, what limits more widespread climate action? And, just as importantly in light of the urgent need for climate action, how should climate communication be shaped to help encourage the fishers to act more offensively?

Marshall 2014; Stoknes 2015). While information- and knowledge-deficit explanations and arguments concerning the perceived distance of climate change are fundamental, they do not apply for aware and well-informed people who recognise climate impacts as a concrete and imminent threat to their lives (Norgaard 2009). If then the dissonance between appraisal and appropriate climate action cannot be explained by lack of knowledge and information access and distance perception, how does it arise? Part of the answer lies in different, at times intertwined structural barriers, such as economic barriers (e.g. insufficient financial capital to upgrade one's house to storm-resistant standards), political barriers (e.g. limited state support for investment credits in more energy-efficient fishing vessels; insufficient insurance schemes for fishers), physical barriers (e.g. the difficulty of avoiding car use in remote areas) and socio-cultural barriers (e.g. national pride and tradition of supporting oil exploitation) (cf. also Bercht 2019). However, many people, as Gifford et al. (2018, p. 162f.) argue, have the "financial and structural capacity to act, but do not, or do much less than they could" (cf. also APA 2009).

Recent case study examples (e.g. Broch 2013; Dannevig and Hovelsrud 2016) and my own empirical investigations (Bercht 2017, 2019) demonstrate that public engagement with climate change also remains low on the Lofoten Islands in the Norwegian Arctic, even though climate change is not abstract or distant from the islanders' lives. As my research findings indicate, in particular, climate change is viewed as a crucial driving force altering living conditions by the Lofoten coastal fishers, who pay close embodied attention to local weather conditions as meteorological parameters specifically determine when, how often, for how long and at what risk they may leave the harbours to go out to catch fish at sea (Bercht 2017, 2019). For example, according to their observations, which are broadly consistent with scientific findings (cf. Øseth 2011; AMAP 2017), the warming of the ocean affects the distribution and abundance of the economically and culturally relevant Northeast Atlantic (NEA) cod fish stocks (Gadus morhua) and is leading to an increased influx of less valuable southern species such as mackerel (Scomber scombrus) and blue whiting (Micromesistius poutassou). Besides, shorter winter seasons, higher winter temperatures and more winter rain already influence the onset and quality of the historic stockfish production; that is, naturally air-dried NEA cod. Also, a rise of sea-level, storms and polar lows negatively affect landing and fish processing facilities, fishing nets left out overnight, weather predictability and the safety of sea navigation. According to Dannevig and Hovelsrud (2016, p. 271), fishers are "perhaps the occupational group most affected by weather in their professional life".

In light of these challenges, similar to the participants of the surveys presented above, the fishers are extremely worried about their future lives, even though their threat appraisals and emotional reactions are not always instantly obvious (Bercht 2017, 2019). Their concerns are related to concrete harm/loss (e.g. fewer days at sea due to hazardous conditions), uncertainty (e.g. catching less NEA cod in the future) and existential threats (underemployment and identity loss). Yet, with so much at stake, what limits more widespread climate action? And, just as importantly in light of the urgent need for climate action, how should climate communication be shaped to help encourage the fishers to act more offensively? These questions are also of great practical significance to the representatives of the Norwegian Coastal Fishermen's Association (NCFA, Norwegian *Norges Kystfiskarlag*), located on the Lofoten, who are highly concerned to see that the majority of the coastal fishers do not demonstrate any commitment to action, such as diversifying income structures to deal with fewer days at sea, attaching greater importance to information events focusing on climate impacts on coastal fisheries or simply asking NCFA for advice on how to best adapt to the challenges ahead (interviews, 2015; see section below on data collection).

Contradictory statements

Another intriguing point is that some Lofoten interviewees who initially state that they are not worried about climate change because, as coastal fishers, they are used to environmental hazards and thus see no need to adapt, later in the interview seemingly contradict themselves by saying that they fear climate change and find adaptation crucial because their own and their children's lives are already negatively affected (e.g. more frequent flooding of their private jetty due to sea-level rise; less skiing in winter because of less snow) (interviews, 2015). Apparently, the interviewees' answers diverge, depending on whether they see and identify themselves at that moment as a group member ('us, the coastal fishers') or as an individual person ('I, the jetty owner'; 'I, the skiing enthusiast'). Yet, the decisive question here is when and for what reason someone sees and acts in terms of the group(s) to which she or he belongs or as an individual? Answering this question is vital because – as we will see – it is argued that people are capable of acting at *all* these different identity levels, but that the *particular* level at which they categorise themselves in a given situation has distinct implications for how they think, feel and respond to climate change.

In this context of climate inaction and contradictory statements made by the same respondents, the overall key question that has only recently gained momentum and sheds new light on the climate knowledge-action gap is: What is happening in people's heads? What kinds of psychological barriers or "dragons of inaction", as Gifford (2011, p. 290) puts it, prevent people from confronting the threat and interfere with climate action (van der Linden et al. 2015; Moser 2016; Gifford et al. 2018)? Psychological barriers refer to any cognitive and emotional process in the human mind that keeps people from doing something specific or changing their behaviour. To date, these barriers and their interdependencies with society and structural barriers have been less well researched and acknowledged than structural barriers themselves and have as yet been insufficiently addressed by climate policymakers and decision makers (Norgaard 2009; IPCC 2014a; Moser 2016). However, analyses of the social-psychological reasons for people's inaction or restricted behaviour are essential to understanding how to increase climate action and make climate communication more effective.

Apparently, the interviewees' answers diverge, depending on whether they see and identify themselves at that moment as a group member ('us, the coastal fishers') or as an individual person ('I, the jetty owner'; 'I, the skiing enthusiast').

Goals and objectives

Given these research needs, it is this triple goal – to be empirically and conceptually informative and practically relevant – that this paper sets out to achieve.

- Firstly, it provides insight into the Lofoten Islands as a case study site and the methodology and methods used to address the issues raised.
- Secondly, it seeks to analyse and explain the reasons for climate inaction and contradictory statements among the Lofoten coastal fishers by drawing on the social identity approach; an approach that is based on work pioneered by Tajfel and Turner (1979, 1986), Turner (1985) and Turner et al. (1987). Particular emphasis is thereby given to how conceiving of oneself in terms of a particular level of identity can influence climate attitudes and behaviours, and to how the content of social identities can direct group members to less climate action.
- Finally, based on these outlines, work-in-progress ideas for enabling more effective climate communication are presented. It is hoped that this paper will strengthen the interface between climate science and practice and empower readers by making them more informed participants in climate change debates.

However, observed and projected climate change impacts bear the risk of weakening Lofoten's unique position in cod fishery, which is also vital for settlement and employment structures, coastal culture, and identity.

Case: Description

The empirical results shared in this paper are based on **field research conducted on the Lofoten Islands in Norway**, located above the Arctic Circle, in 2015. In that year, these islands were home to around 24,500 people and 892 registered full-time small-scale fishers (Directorate of Fisheries 2019).

Coastal cod fishers in the face of Arctic change

The Lofoten was selected as a case study site because the Barents Sea marine living resources and the Lofoten coastal fishing communities are particularly affected by rapid climate change, such as rising atmospheric and oceanic temperatures, ocean acidification, changing weather patterns, food web modifications, habitat degradation, loss of traditional hunting and fishing routes, and the altering of biographical careers and lifestyle patterns (Øseth 2011; IPCC 2014b; AMAP 2017; see also Box 1 and, for more detail, the last 2015 update of the Integrated Management Plan for the Barents Sea – Lofoten Area which identifies the Lofoten Islands as especially vulnerable to climate change; Norwegian Ministry of Climate and Environment 2015). Despite profound uncertainty about the details of future development and the magnitude, rate and quality of impacts (e.g. Arctic sea-ice decline has been faster than predicted, cf. AMAP 2012), there are crucial indicators of changes today that will increasingly challenge Arctic people to adapt (West and Hovelsrud 2010; Nymand Larsen and Fondahl 2014). For example, thanks to the warm North Atlantic Current and the resulting rich NEA cod fish stocks and favourable outdoor drying conditions from March to June (perfect mixture of wind, frost, rain and sun), the Lofoten Islands are the only place on Earth

Box 1: Scientific relevance – why coastal fisheries in the Norwegian Arctic?

The **Arctic** matters because:
- it is experiencing some of the most rapid and severe climate changes on Earth,
- it is expected to have the largest marine species turnover worldwide with regard to invading and locally extinct fish species and poleward shifts in distributions, and
- with the Arctic the stakes are global (e.g. global seafood provision, emissions from thawing Arctic permafrost).

- The **Norwegian Arctic** matters because:
- its fishing and aquaculture are vital for Norway's socioeconomic and cultural structure, and
- it greatly contributes to global seafood provision.

- The **Lofoten Islands** matter because:
- their economic, cultural and social activities are closely connected to the natural environment,
- they rely heavily on natural resources for income, employment, culture and lifestyle; Northeast Atlantic (NEA) cod being the most important natural resource, and
- they are already severely affected by climate change impacts.

- The **Lofoten coastal fisheries** particularly matter because:
- they are on the front line, experiencing direct impacts from climate change,
- they face severe uncertainties about future living conditions (e.g. altering income structures), and
- they are extremely vulnerable to climate change (e.g. limited fishing days at sea due to increased storms).

Source: Øseth 2011; Nymand Larsen and Fondahl 2014; Fossheim et al. 2015; Norwegian Ministry of Climate and Environment 2015; Arctic Council 2016; Dannevig and Hovelsrud 2016; AMAP 2017; Osborne et al. 2018

Figure 1: Small-scale coastal cod fisheries on the Lofoten Islands, Norway

Small-scale fishing vessel heading to the Vestfjord to catch NEA cod in early March.

Landing and selling NEA cod (250 kg per container) to Ballstad Fisk AS, a local fish buyer and fish processor in Ballstad.

Tying freshly caught and just-gutted NEA cod together in pairs by their tails to hang them up on outdoor wooden racks (Johs. H. Giæver AS, local fish buyer and fish processor in Henningsvaer).

Hanging up NEA cod in Svolvær to produce the traditional air-dried stockfish (preservation through drying.

NEA cod drying by cold air and wind in Hamnoy in April.

School children, dressed up as coastal fishers, on their way to Svolvær's market square to traditionally welcome and celebrate the annual arrival of the NEA cod, which starts migrating into the Vestfjord every March.

Source: author's photographs, Lofoten Islands in 2015

In this paper, I argue that the social identity approach can make important contributions to the wider efforts of researchers and practitioners to understand insufficient climate action and develop more effective climate communication.

where the production of top-quality stockfish is possible (see Figure 1). This tradition dates back about 1000 years to the time of the Vikings. Ever since then, the air-dried cod from Lofoten (Norw. 'Tørrfisk fra Lofoten') has been a central food and export product. Due to its excellent reputation and strong geographical linkage, it was the first Norwegian quality food product to be awarded the status of Protected Geographical Indication (PGI) in the EU in 2014. It is now in the same class as traditional specialities like the famous Italian Parma ham or French champagne.

However, observed and projected climate change impacts bear the risk of weakening Lofoten's unique position in cod fishery, which is also vital for settlement and employment structures, coastal culture, and identity. For example, as indicated by a recent survey by Fossheim et al. (2015), global warming led to a temperature increase of 1 degree Celsius in the Barents Sea from 2004 to 2012. And further temperature rises are projected (IPCC 2014b). As a consequence of warming, a profound northward shift in the NEA cod spawning and feeding locations towards colder waters is likely, which would cause a significant decrease of cod spawning in the Lofoten area, which lasts from late January to early April every year (ibid.; Dahlke et al. 2018). Another likely drawback is that warmer springs would result in flies laying their eggs on the fish drying on outdoor racks and spoiling it.

Such changes in cod migration patterns and loss of stockfish quality would particularly affect the local fish buyers and fish processors and, above all, the livelihoods of small-scale coastal fishers who operate close to the Lofoten coastline and are not able to access cod fishing grounds offshore and further north due to small vessel size and limited equipment. On average, 80 percent of their annual income is derived from catching and selling NEA cod to local fish buyers within the three months of seasonal winter cod fishing, which illustrates the economic significance of cod fisheries to the local fishing communities (interviews with NCFA and coastal fishers, 2015). Furthermore, negative spin-off effects on other sectors are expected, including employment in local shipbuilding and marine technical supply companies.

While it is beyond the scope of this article to cover the full range of climate change impacts and other relevant drivers of Arctic change, such as resource extraction, rising tourism and shifts in political relationships, it hopes to make evident that climate action and effective climate communication are immensely relevant to the Lofoten islanders and (local) decision-makers. The challenges ahead urgently require dialogues between different stakeholders and call for scientific responsibility, research and a better understanding of climate inaction in the context of past, current and prospective future Arctic change.

Empirical data collection

The analysis of climate action in Lofoten coastal fisheries was carried out within a larger two-year study on Arctic change, resilience and translocal relations between coastal fishers, funded by the Fritz Thyssen Foundation from 2015 to 2017. The findings presented here are based on an **iterative and qualitative-interpretative, naturalistic research design** that focuses on meaning in context and aims for a broad and in-depth understanding and elucidation of human experience, behaviour and the reasons that govern such behaviour in the face of rapid Arctic change. Ontologically, the research design draws on the philosophy of critical realism. In line with Bhaskar (2008), this means that reality is considered as something that externally exists but is only accessible through the perceptions and interpretations of individuals and socially constructed meanings. Accordingly, in epistemological terms and by applying an interpretivist approach, scientific knowledge about climate action is produced by exploring and understanding people's perspectives in the context of their living conditions and circumstances.

Two field trips to the Lofoten Islands were undertaken in the spring and autumn of 2015, totalling four months. Within this timeframe, 43 problem-centred, face-to-face interviews with narrative sequences were carried out in English across the Lofoten Islands (e.g. at harbours, on vessels, in offices); 31 of these with current full-time coastal fishers (mostly lasting between two and five hours), the rest with fish buyers, processors and suppliers, other local residents, environmental charities and organisations, representatives from the communities and fisheries officials (e.g. NCFA, see above). The interview partners were recruited through scoping interviews with local key informants (e.g. from the municipal administration), snowball sampling (one sample suggests further ones), and responses to a public call (advertised on the NCFA's homepage and in the local newspaper *Lofotposten* in October 2015). E*xcept for* four informants who felt uncomfortable with being recorded, a*ll interviews* were tape-recorded with the respondent's permission for preservation and analysis. In addition to the qualitative interviews, input from different stakeholders (e.g. director of the Lofoten Stockfish Museum in Å), participatory observations (e.g. joining coastal fishers on their fishing trips; participating in social and cultural gatherings such as the annual "World Championship in Cod Fishing" in Svolvær in March 2015), and detailed field notes were fundamental for critical reflexivity and refining the research scope throughout the research process. Being in the field for an extended period of time was a key ingredient in establishing rapport with the local citizens and successful qualitative interviewing.

The method of problem-centred interviews aimed to gather objective evidence concerning human behaviour (e.g. membership at NCFA) as well as subjective perceptions and ways of processing social reality. It referred to pre-developed, semi-structured open-end questions around the topic of climate change, adaptation, transformation and identity, but at the same time allowed openness and flexibility (e.g. by using questions that referred to previous answers). For example, broadly formulated problem-centred questions were worded as follows: "What comes spontaneously to your mind when you hear the words 'climate change'?"; "Research illustrates that public engagement with climate change still remains low. What do you think is the reason for this?"; "Does this lack of engagement also apply to the Lofoten islanders?"; "Who would you turn to if you wanted to share your thoughts and feelings about the future of the Lofoten fisheries?" This kind of open-question technique stimulated free thought and allowed deeper insight into the attitudes, values, thoughts and beliefs that govern behaviour. The narrative sequences (unstructured, in-depth interview elements) further aimed to uncover how underlying processes of psychological barriers interfere with climate action. A generative narrative question was thus rather unspecified, such as: "I would like to ask you to tell me in detail, step by step, how your life as a fisher has changed from the time you began to work as a fisher until today." In a following stage, fragments of the story that had not been further elaborated or remained unclear were readdressed (e. g. "Why do you feel strong ties with other Lofoten coastal fishers? In which particular situations?").

The interview data were transcribed and analysed, with the assistance of the qualitative analysis software MAXQDA, through coding and identifying major themes from the interviews. To triangulate observation and interview data, additional information obtained from municipal documents, environmental organisation reports and local newspapers was used.

Case: Results and Discussion

In this paper, I argue that the social identity approach can make important contributions to the wider efforts of researchers and practitioners to understand insufficient climate action and develop more effective climate communication. What follows is an outline of the core aspects of this approach, closely intertwined with the presentation and discussion of the case study's main research findings.

Importantly, and of relevance later, according to Tajfel and Turner (1979), self-categorisation forms a functional, common and necessary cognitive tool that systemises the social world and thereby provides orientation for self-reference, especially when dealing with climate change-induced uncertainty and existential threats as sketched above.

It is important to emphasise that the self is conceptualised as a highly variable, fluid and context-dependent process. This is because at different times in different situations people define themselves at different levels, of which the individual level is only one, and because the way people categorise themselves will influence how they will react to a situation.

A social identity approach for understanding climate inaction in Lofoten cod fisheries

According to Hornsey (2008) as well as Postmes and Branscombe (2010), the social identity approach, developed in social psychology, is one of the most influential theories of group processes and intergroup relations worldwide due to its strong empirical support and explanatory power. A key strength of this approach is that it takes account of the "socially embedded, situated, shared, social, group-related properties of human beings" (Turner and Reynolds, p. 400) and therefore, in contrast to reductionist and individualistic viewpoints (e.g. general information-processing, personality), acknowledges the functional interplay of mind and society in shaping cognition, emotion and behaviour. The social identity approach encompasses two complementary and related but distinct theories: social identity theory, articulated by Tajfel (1972, 1974), and Tajfel and Turner (1979), and self-categorisation theory, developed by Turner (1985) and Turner et al. (1987). Put simply, the former is a theory of intergroup relations and deals with the implications of 'us versus them' distinctions (ingroups versus outgroups) – I will get back to this later – whereas the latter is a theory of the shift in self-perception from personal to social or human identity and deals with 'I and me' versus 'we and us' distinctions (acting as an individual versus acting as a group member). To start with, the self-categorisation theory is formalised in a number of core assumptions and related hypotheses (Turner 1985; Turner et al. 1987; Turner 2007), of which the following five are the most relevant for the present analysis of contradictory statements and climate inaction.

The self-categorisation process: assumptions and results

First, a central premise of the self-categorisation theory is that every social being has a self-concept. Turner et al. (1987, 44) define this as a "set of cognitive representations of self available to a person". Generally, the self-concept contains the answers to the questions 'Who am I?' or 'Who are we?' and is an assemblage of descriptions and definitions that people use to define and experience themselves (Turner 2007). To illustrate, an interviewee described himself, amongst other things, as a skilled, tough and hard-working fisherman who was born on the Lofoten, as a proud father of three, and as a skiing enthusiast (interview, 2015).

Second, based on this premise, it is further assumed that the self-concept takes, inter alia, the form of *self*-categorisations. That is, the self is seen as a member of a particular category of stimuli. As such, it is appraised to be (a) more or less the same (e.g. identical, similar, equivalent, interchangeable) to other stimuli in that category, and (b) more or less distinct from stimuli in other categories. To exemplify, when the fishers categorise themselves as small-scale coastal fishers, they acknowledge their equivalence to other small-scale coastal fishers (same category), i.e. their ingroup that shares some central group-defining stimuli (e.g. vessels shorter than 28 metres; use of conventional fishing gear) and their difference from relevant outgroups (other categories), such as large-scale offshore fishers (e.g. longer vessels; use of modern fishing gear) and untrustworthy climate scientists (no local knowledge of the climate adaptation needs of coastal fishers) who – from the fishers' perspective – share other central group-defining stimuli. Importantly, and of relevance later, according to Tajfel and Turner (1979) and others (e.g. Dovidio et al. 2013), self-categorisation forms a functional, common and necessary cognitive tool that systemises the social world and thereby provides orientation for self-reference, especially when dealing with climate change-induced uncertainty and existential threats as sketched above. Also, by 'knowing' what categories people belong to, people can understand things about themselves and define appropriate behaviour, such as climate action, according to the groups that they and others belong to or do not belong to.

A third core tenet of Turner's (1985) work is that self-categorisations exist at different levels of abstraction with higher levels being more inclusive. More precisely, as illustrated in Figure 2 and further detailed in Figure 3, in the self-concept there are three important and equally valid category levels: categorisation of the self (a) at the subordinate personal level as a unique individual (different from other relevant individuals or ingroup members, e.g. 'I, Per-Åke' as opposed to 'you, Mattis'), which corresponds to one's personal identity, (b) at the intermediate social level as an ingroup member (as distinct from outgroups, e.g. 'we Lofoten islanders' versus 'you mainland Norwegians'), corresponding to one's social identity, and (c) at the superordinate human level as a human being (in contrast to other species, e.g. 'we humans' versus 'animals'), which corresponds to one's human identity.

It is important to emphasise that the self is conceptualised as a highly variable, fluid and context-dependent process. This is because at different times in different situations people define themselves at different levels, of which the individual level is only one, and because the way people categorise themselves will influence how they will react to a situation. To echo Reicher et al. (2010), a key feature of the self-categorisation theory is that it breaks with the traditional notion that the self should only be understood as that which describes the individual in relation to other individuals, and that it takes into account that, in some circumstances, people define themselves through the groups to which they belong. Taking these considerations into account, social identity is thus defined as the "part of an individual's self-concept which derives from his knowledge of his membership of a social group (or groups) together with the emotional significance attached to that membership" (Tajfel 1974, p. 69). As we will see later, this group belongingness will help explain the fishers' (initial) denial of climate concern. In summary, it is important to note that, from the self-categorisation perspective, the self-concept of human beings contains three identities: personal identity, social identity and human identity.

In summary, it is important to note that, from the self-categorisation perspective, the self-concept of human beings contains three identities: personal identity, social identity and human identity.

Following on from the points above, and delving deeper into explaining the contradictory interview statements, Figure 3 exemplifies a representative selection of different (but not exhaustive) levels of self-abstraction that are typical for an interviewee named Per-Åke (fictive name). This illustration is intended to highlight certain features, whilst omitting other non-essential parts. For example, when Per-Åke, as a long-line

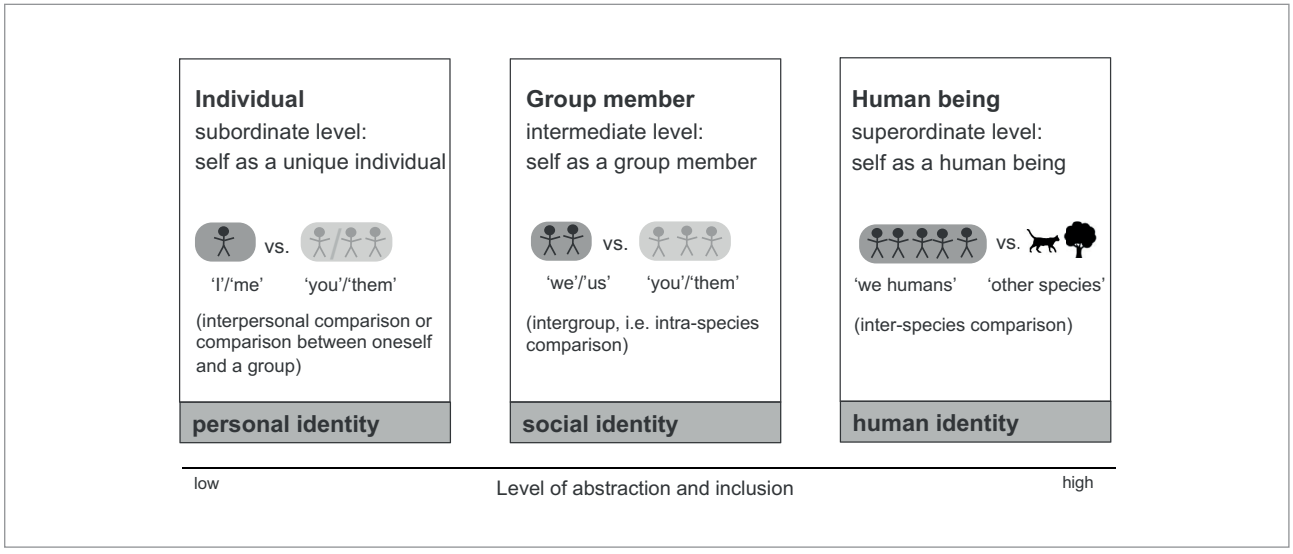

Figure 2: The self-concept and the three identities it comprises
Source: author's draft, based on the assumptions of the self-categorisation theory (Turner et al. 1987, 45f.)

fisher, is asked to judge himself in comparison to gillnet fishers, he emphasises his social identity as a long-line fisher (and not as a coastal fisher at the next highest and more inclusive level of abstraction) and sees himself as much more like other long-line fishers (e.g. use of baited hooks attached at intervals to a long-line) and different from gillnet-fishers (use of gillnets, i.e. a 'wall' of netting that hangs in the water column). However, if the interview questions revolve around North Sea fisheries management, his social identity as a Norwegian is 'switched on' as opposed to the outgroup of EU countries with their EU Common Fisheries Policy ("We Norwegians want to make our own decisions on how to catch the fish"; interview with Per-Åke, 2015).

The lower-level categories (e.g. Lofoten islander, coastal fisher) are now, in this new (interview) context, subsumed within the higher-level category of Norwegian. Following Turner (1985), there is a so-called 'functional antagonism' between the different levels of self-categorisation in terms of their salience, i.e. the degree to which they are functionally activated and cognitively in determining self-perception. The salience of one level (e.g. coastal fisher) produces intragroup similarities ('we coastal fishers') and intergroup differences ('we coastal fishers' versus, e.g. 'you politicians' or 'you climate scientists') which reduce or inhibit the perception of intergroup similarities at higher levels (e.g. 'we Norwegians') and intragroup differences at lower levels (e.g. 'we long-line fishers' versus 'you gillnet-fishers'). More specifically, the more Per-Åke sees himself as a coastal fisher in a specific situation, the less he defines himself (at a lower level) as an individual or (at a higher level) as a Norwegian or human being. Equally, the more he sees himself as an individual, the less he views himself (at a higher level) as a coastal fisher or Norwegian.

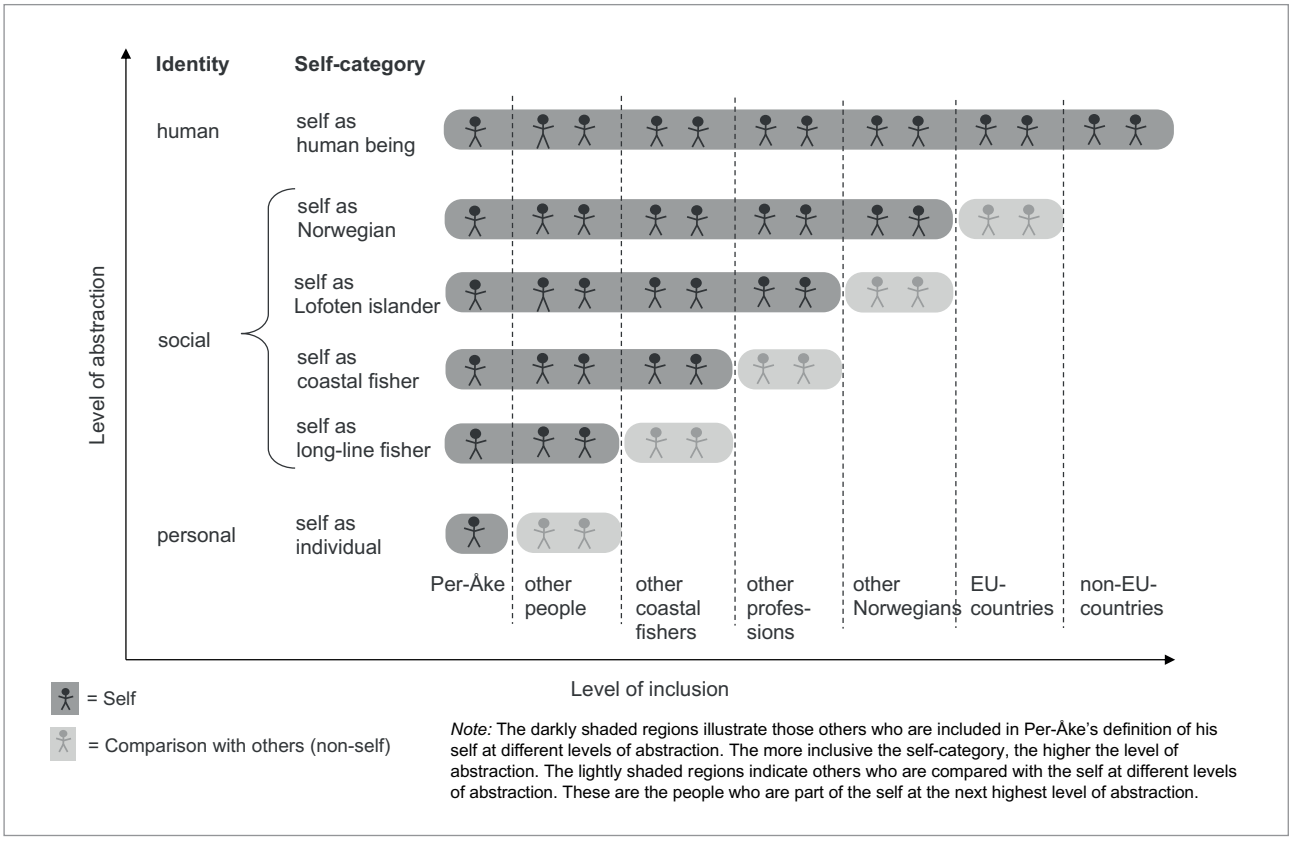

Figure 3: Example of a self-categorial hierarchy for a Lofoten small-scale coastal fisher
Source: author's investigation, way of illustrating results adaptded from Haslam (2004, 32)

This concept of functional antagonism is extremely helpful in explaining the paradox of why the fishers say two opposite things. When the interview questions refer, directly or indirectly, to aspects of their private life, it is likely that their personal identity becomes salient, for example, as a worried father, illustrated by statements such as "I am very scared [of climate change] because it clouds the future of my sons. […] I want them to have a happy life" (interview, 2015). Yet, if the same person is asked, for instance, to elaborate on how climate change affects his professional life, it is likely that his social identity as a coastal fisher becomes salient and that his behaviour changes from individual to group as he thinks and feels more in terms of social than personal identity. Statements such as "*We* coastal fishermen are tough and don't worry [about climate change]. We see no need to adapt" and "*We* are Lofoten fishers, we can deal with any kind of stress" illustrate this point (interviews, 2015). Even when such interview questions that slightly differ in their focus (private versus professional life) were asked in quick succession, contradictions could not be resolved. The interviewees either revised their previous statements to create a logical chain of reasoning, quickly changed the subject or, in two cases, terminated the interview prematurely (e.g. with the excuse of needing to return to work).

The interview results suggest that, in general, it is easier for the interviewees to speak about their emotional response (fear, anxiety) to climate change at the personal identity level. This is because at this level (e.g. salience of a father of three), climate change threats are appraised as less disturbing (e.g. existential threats are less dominant) and relevant negative emotions can thus be addressed more openly than at the social identity level where the interviewees feel much more strongly that their existence and livelihoods as coastal fishers are already and increasingly affected by climate impacts. This creates much more fear and anxiety than suffering, for example, from less skiing opportunities and thinking about one's children's (still-distant) future. The fishers feel upset and frightened, as the following fisher's statement exemplifies: "No no, I don't think about climate change because it will be a catastrophe. […] I'm very afraid of it" (interview, 2015). He emphasises that he feels overwhelmed and paralysed by fear and, in general, refuses to speak about his feelings. As a result, he and the other fishers interviewed experience a lack of control and feel helpless, and thus want to protect themselves from facing and approaching unpleasant emotional experiences by denying climate concern from the outset (see Bercht 2017 on sensitive interview techniques to elicit such personal responses). They cognitively zone out and focus on other issues rather than the harm and threats that conflict with their existence and identity. In consequence, negative emotions do not easily come up in conversations about the interviewees' lives as coastal fishers (which hampers the analysis of climate salience because fear and anxiety as indicators for salience are not instantly mentioned). Denying climate concern at the social identity level requires less cognitive and emotional strength than exposing oneself to and living through one's emotions by speaking openly about it.

In sum, two important findings are brought to light. First, the interviewees apparently can see themselves as having completely opposite attitudes and emotional reactions depending on whether their personal or social identity is salient (cf. also Turner 2007). And, second, even when their social identity is salient and they express no climate concern, this does not necessarily imply a lack of climate concern or disinterest in adaptation. Rather, my empirical findings indicate that climate change concern exists at both identity levels, but it is more likely to be masked by the dominance of fear and anxiety at the social identity level. As such, there is no contradiction in people's mindsets but rather a conflict between approaching and avoiding a particular emotional responsee.

This concept of functional antagonism is extremely helpful in explaining the paradox of why the fishers say two opposite things. When the interview questions refer, directly or indirectly, to aspects of their private life, it is likely that their personal identity becomes salient, for example, as a worried father, illustrated by statements such as "I am very scared [of climate change] because it clouds the future of my sons. […] I want them to have a happy life" (interview, 2015). Yet, if the same person is asked, for instance, to elaborate on how climate change affects his professional life, it is likely that his social identity as a coastal fisher becomes salient and that his behaviour changes from individual to group as he thinks and feels more in terms of social than personal identity.

Groups help to make sense of the world, contribute to wellbeing and self-esteem, and provide security and orientation through shared beliefs, attitudes, norms and values.

However, what the social categorisation theory does not explain are the social-psychological mechanisms behind the statements such as "We coastal fishermen are tough and don't worry". Why and how do the interviewees refer to 'we', which implies that they identify as group members and produce intragroup similarities (e.g. 'our toughness') and differences from relevant outgroups (e.g. 'less toughness')? What kind of intergroup dynamics arise when social identity is salient, and importantly, how do they interrelate with climate inaction? Before addressing these questions and relevant explanatory aspects of the social identity theory in more detail, it is necessary first to take a closer look at the formation of identity salience and the cognitive mechanisms that make group behaviour possible at all. Given the large constellation of identities to which the fishers have access, the crucial question here is which particular identity will become the basis for categorisation in any one context? The following fourth and fifth assumptions of the self-categorisation theory will aid further understanding. Furthermore, they will be important when discussing climate communication strategies.

Fourth, it is assumed that the formation and salience of a social category in a certain context is a result of the interaction between relative accessibility and category-stimulus fit. Relative accessibility refers to the perceiver's readiness to use a particular category based on his/her past experiences, present expectations, and current motives, emotions, values, goals and needs. Some are, as Fielding and Hornsey (2016) illustrate, fleetingly accessible if primed (e.g. one's identity as a patient in a hospital) whereas others are chronically accessible because they are frequently activated (e.g. a workplace social identity). For instance, the 'coastal fisher' category is especially accessible for the coastal fishers when they go out to sea to catch fish or, as the research results suggest, when they are confronted with sensitive interview questions about the impacts of climate change on their professional lives. Category-stimulus fit refers to the extent to which perceived reality actually matches subjectively relevant criteria which define the category. This means, for example, that a coastal fisher would not perceive a person as a 'coastal fisher' if that person did not look and act in the ways the coastal fisher stereotypically defines as a 'coastal fisher'.

To make it even more complicated, the category-stimulus fit is broken down into comparative fit (comparison of stimuli) and normative fit. Comparative fit is defined by the meta-contrast principle which states that people are more likely to believe that a collection of stimuli (i.e. members of a category) represents an entity to the degree that the differences between those stimuli are smaller (accentuation of perceived intragroup similarities) than the differences between that collection of stimuli and other stimuli (accentuation of perceived intergroup differences) that are salient in a given context. To demonstrate, a long-line fisher and a gillnet-fisher are more likely to share a higher social identity as coastal fishers when they encounter one another in a context that includes non-coastal fishers (e.g. offshore fishers, climate scientists). This is because here the differences between them are small relative to those between them and the non-coastal fishers.

Normative fit refers to the content aspect of the match between category specifications and the stimuli being represented. For example, to categorise oneself and others as a group of coastal fishers (ingroup) as opposed to non-coastal fishers (outgroup), the ingroup members must not only differ (in attitudes, actions, etc.) from non-coastal fishers more than from one another (comparative fit) but the nature of the difference must also be consistent with the perceiver's normative beliefs and expectations about the categories. This, in turn, implies that people are unlikely to categorise themselves as coastal fishers and others as offshore fishers if the members of these two groups are seen to differ from each other in ways that are unexpected – perhaps if the 'coastal fishers' try to fish offshore and the 'offshore fishers' use vessels much shorter than 28 metres.

Fifth and finally, an important part of Turner's work was to specify a prominent psychological process associated with the 'switching on' of a shared social identity. Turner (1985) termed this process depersonalisation and refers to it as self-stereotyping, where – under conditions of social category salience and consequent accentuation of ingroup similarities – "people come to perceive themselves more as the interchangeable exemplars of a social category than as unique personalities defined by their differences from others" (ibid., p. 258). For instance, if interviewees categorise themselves as coastal fishers in contrast to climate scientists, they tend to accentuate perceptually similarities to other coastal fishers (and reduces idiosyncratic personal differences from other coastal fishers) and regulate behaviour by norms, beliefs, attitudes and emotions associated with that category (e.g. expertise in Lofoten coastal fisheries), enhancing perceptually stereotypical differences from the climate scientists. The self changes in level and content, and self-perception and behaviour become depersonalised. Importantly, Turner (1985) stresses, however, that depersonalisation is not a loss of identity, but its transformation, i.e. its change from a more personal to a more social identity. Following Turner (1985), and as further discussed below, the depersonalisation of individual self-perception and salience of social identity are cognitive mechanisms that actually allow group behaviour to take place, such as social influence, social stereotyping, ethnocentrism and (collective) climate inaction at the social identity level.

A crucial assumption made in social psychology is that, particularly when faced with unsettling uncertainty (such as existential climate threats), individuals strive to belong and especially turn to similar others, their ingroup, for support and information on what to think, feel and do (Hogg 2007).

The formation of group behaviour: assumptions and results

With these aforementioned assumptions and the theoretical explanation of contradictory statements in mind, we can now dig deeper into the subject of intergroup behaviour. The aim here is to better understand why the interviewees implicitly refer to their membership of the coastal fisher category when they deny climate concern. How do they come to adopt, think, feel and behave in terms of such social (rather than personal) identity? The social identity theory provides a helpful theoretical lens through which to examine these issues. To lay the foundation, two fundamental assumptions (see also Figure 4), which are also widely shared in psychology, are emphasised here briefly (Tajfel 1974; Tajfel and Turner 1979).

First, it is assumed that humans as social beings will want to belong to groups. As further outlined by Baumeister and Leary (1995) and Lavigne et al. (2011), the need to form and maintain temporally stable and positive interpersonal relationships, which is also referred to as belongingness, is one of the most powerful, universal, innate and, presumably, evolutionarily 'built in' motives that exist in hu-

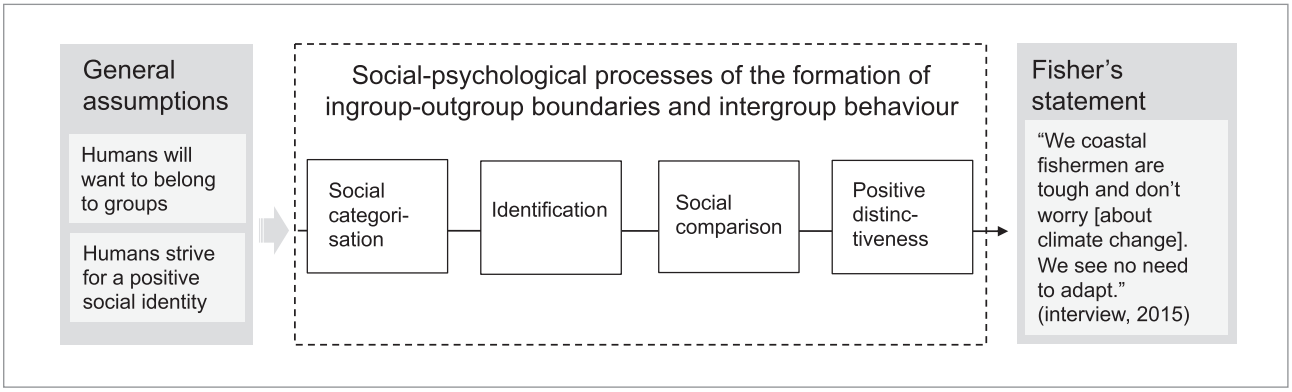

Figure 4: Formation of ingroup-outgroup boundaries and intergroup behavior
Source: author's draft, based on the assumptions of the social identity theory (Tajfel 1974; Tajfel and Turner 1979)

However, it is important to note that even if the coastal fishers interviewed express climate concern at the individual level, this does not necessarily imply climate action.

man nature (cf. also Kamdea and Tindale, 2006, on the need's innate quality based on hominid evolutionary survival and reproduction benefits). Empirical support for this viewpoint is also provided by recent social neuroscience research, indicating that human brains are wired for reaching out to and connecting with others (Lieberman 2013). Groups help to make sense of the world, contribute to wellbeing and self-esteem, and provide security and orientation through shared beliefs, attitudes, norms and values. From the perspective of social identity theory, the concept 'group' denotes a cognitive entity (i.e. not necessarily face-to-face contact) where two or more people come to "perceive themselves to be members of the same social category, share some emotional involvement in this common definition of themselves, and achieve some degree of social consensus about the evaluation of their group and of their membership of it" (Tajfel and Turner 1979, p. 40; cf. also Turner 1985). This shared ingroup mentality is also observable among the coastal fishers interviewed. They proudly perceive themselves as members of the Lofoten coastal fisher group, which is, as they state, known throughout the world for its extraordinary small-scale fishing skills, especially in heavy sea conditions. Evidently, the fishers share common ground (e.g. same skills, expertise and daily routines; main income from cod fishing).

Second, a main proposition of social identity theory is that people are motivated to evaluate themselves positively and, therefore, strive for a positive self-concept. Thus in so far as they define themselves not only but also in terms of group membership (see Figure 3), they will be motivated to evaluate that group positively. Following this assumption, the coastal fishers seek to achieve or maintain a positive social identity as coastal fishers.

Building on these two assumptions, Tajfel (1974) and Tajfel and Turner (1979) posit that there are four closely intertwined psychological processes involved in group formation ('we coastal fishers') and evaluating others as 'us' or 'them'. These processes, here distinguished only for analytical purposes, are crucial for explaining why the fishers interviewed argue that 'they, as coastal fishers' seemingly do not worry about climate change.

As shown in Figure 4, **social categorisation**, i.e. a cognitive representation of a social division into groups, takes place first. As outlined earlier, the fishers categorise themselves (self-categorisation) and other coastal fishers in terms of an intermediate social identity, as 'us coastal fishers' who are similar to each other and different from an outgroup, for example, 'those' who are not used to hazardous conditions at sea or familiar with the challenges in coastal fisheries.

A crucial assumption made in social psychology is that, particularly when faced with unsettling uncertainty (such as existential climate threats), individuals strive to belong and especially turn to similar others, their ingroup, for support and information on what to think, feel and do (Hogg 2007, 2012; Dovidio et al. 2013). According to Hogg (2016), categorisation – as a system of orientation (see above) – is especially effective at reducing uncertainty because it furnishes group prototypes that reduce, control or protect from feelings of uncertainty (cf. 'uncertainty-identity theory', developed by Hogg 2007, 2012). This kind of social turning towards one's ingroup can also be observed among the interviewed fishers. The interview data suggest that the fishers have a strong need to share their fear and anxiety about climate change impacts on their professional lives with their peers and exchange opinions on what to do (especially with regard to increasing storms). However, according to the fishers interviewed, the ma-

jority of their ingroup members, especially the older ones, continue to hold to the solid group-based value of being tough fishers who consider dealing with climate change, highly variable weather and fish stocks as a way of life. Thus, as they argue, there is no need to offensively face climate change and anticipatorily cope with threats.

In the second stage, that is **social identification**, categorisation of the self and others generates a sense of ingroup identification and belonging, and, obviously, shapes the fishers' perception, beliefs, feelings, behaviour and interactions to conform to prototype-based knowledge they have about their ingroup and relevant outgroups. The more strongly they identify with their ingroup, the more likely they are to depersonalise themselves (see above) and the less sharply they differentiate between self-interest and collective interest, which results in ingroup normative behaviour. Even though some fishers might feel less tough than they state or do not share their emotions with their ingroup members, they adhere to their peer group's values and beliefs (e.g. toughness, robustness, experience with adversity at sea) that reinforce their connection to their ingroup (motive of belongingness, see above) and identity formation and protect social standing. Drawing on Kahan's (2017) insight into the concept of identity protective cognition, the fishers are thus more likely to adopt the position of their trustworthy peers and accept action-impeding values and beliefs, resisting correction of these values and beliefs when they are identity-affirming rather than identity-threatening.

Importantly, once the fishers have categorised themselves as part of the coastal fisher group and have identified with that group, they tend to compare their ingroup with relevant (cognitively available) outgroups. In this third process, referred to as **social comparison**, intergroup comparisons enable the selection and evaluation of the relevant relational attributes. For example, from the fishers' perspective, toughness is an especially salient attribute of separate identity in professions, which, apparently, they (unintendedly) refer to in order to 'legitimise' inaction. As stressed by Reicher et al. (2010), the meanings and evaluations that people attach to their group membership are unavoidably comparative. This point is also made by Hornsey (2008, p. 207) who argues that "groups are not islands; they become psychologically real only when defined in comparison to other groups". Put crudely, who the fishers are is partly defined by reference to who they are not (e.g. large-scale fishers who need to be less tough).

Finally, since groups are evaluated in comparison with other groups, a positive social identity – which people seek to achieve based on the assumption above – requires that one's ingroup is positively distinctive from relevant comparison groups on some dimension ('we are tougher than they are'; 'we know more about climate change than the scientists'). This fourth process, i.e. the establishment of **positive distinctiveness**, is crucial to consider because it increases the positive perception of the ingroup and apparently strengthens group-based values and beliefs (e.g. of invulnerability) that impede climate action. The fishers selectively reappraise their (vulnerable) situation to make it reflect a more favourable view of the self and thus deny climate concern and fail to perform offensive coping activities.

When we accept that the social identity approach offers a helpful lens through which to analyse social-psychological mechanisms behind insufficient climate action, then it should also be able to offer solutions to address this critical issue.

Ideally, the formation of a higher-level group identity allows the breaking down of subgroup boundaries and the reduction of ingroup bias (based on social comparison and positive distinctiveness), leading to former outgroup members being granted the same kind of positive evaluations that were previously restricted to the ingroup. This, in turn, can lead to greater acceptance of science and support for action.

An important result here is that the salience of group membership and especially ingroup favouritism (ingroup bias), based on social categorisation, social identification, social comparison and positive distinctiveness, functions as a psychological barrier to climate action. The interview data indicate that the reason why the interviewees categorise themselves as 'we coastal fishers' in the face of existential threats is that group cohesiveness is considered a powerful way to reduce feelings of uncertainty. If the self becomes a 'we' instead of an 'I' (depersonalisation), then the fishers feel closer to each other, conform strongly to group attitudes in their reactions and thus feel less disoriented.

However, it is important to note that even if the coastal fishers interviewed express climate concern at the individual level, this does not necessarily imply climate action. Psychological barriers such as cognitive dissonance and fear (cf. Bercht 2018, 2019 for more detail), a lack of perceived behavioural control ("I'm only one person, what can I do?"), social comparison ("Why should I act if they won't act?"), distrust ("I don't change because their recommendations have failed before.") and tokenism ("I'm a member of the Fishermen's Association, so I've done my part.") come into play and impede forward action (cf. also Gifford 2013 for a more profound discussion).

To sum up, the self-categorisation theory explains how and why people are much more than merely unique persons, and why they are capable of both an individual and collective psychology. The fishers interviewed might act as unique personalities in one context (salience of personal identity), but display collective similarities as group members in another (salience of social identity). This notion of moving up and down between identity levels helps us to understand why the interviewees allegedly contradict themselves when they reflect upon climate impacts on their private or professional lives. The social identity theory, which argues that social identity underpins intergroup behaviour and sees this as qualitatively distinct from interpersonal behaviour, is fundamental in understanding how group formation and intergroup relations can lead to climate inaction. This case study illustrates that due to the human desire to belong to a certain ingroup, the fishers feel compelled to take cues for what they should think and do from their ingroup members with whom they strongly identify and share stories. In this case, their group membership functions as a psychological barrier that is comparable to invisible, defensive walls inside the mind that block messages coming from outgroup members in order to maintain coherent reasoning. Breaking through such psychological barriers is a crucial task in climate communication. The following presents some possible ways of achieving this task.

Tailoring climate communication to encourage climate action

When we accept that the social identity approach offers a helpful lens through which to analyse social-psychological mechanisms behind insufficient climate action, then it should also be able to offer solutions to address this critical issue. This section presents some work-in-progress ideas on social-identity based climate communication strategies (cf. also Bercht 2019). Arguments made here are tentative and not exhaustive. Rather, they are meant to provide a starting point for stimulating debate and future research. Following the Yale Program on Climate Change Communication (YPCCC 2019), climate communication is here broadly understood as a diverse process, shaped by a complex interplay between climate messenger and specific audience. It is about informing, educating, warning, mobilising, persuading and, in the end, helping to solve climate change, while acknowledging that diverse audiences have their own pre-existing beliefs, attitudes and values, and actively interpret and construct their own meanings from the messages they receive.

Tapping into identity affirmation

According to Kahan et al. (2011), progress has been made in identifying effective communication techniques that help to mitigate the effects of group dynamics. One such technique, as the authors suggest, is social identity affirmation. This approach takes into account that social identification (see Figure 4) is not only a source of but also a solution to the problem of climate inaction. Such a resource-oriented strategy is also considered suitable for the present study context. For example, when presented with scientific climate change information on risks (e.g. increasing storm frequencies due to climate change) that is inconsistent with the fishers' cultural values and beliefs (storms are manageable), the fishers are likely to respond dismissively toward that information. However, when shown that the information (e.g. the fishers' toughness at sea will be increasingly challenged) in fact affirms their values and beliefs, such fishers might be more likely to consider the information open-mindedly. In consequence, and this would represent offensive problem-focused coping (in contrast to emotion-focused coping where the aim is to regulate negative emotions, e.g. by reappraising a situation as less threatening), they might discuss more directly with their ingroup members, for instance, about how to improve their safety at sea (e.g. by specifically using social media networks as an informal tool for quick weather advice and localised warnings). This communication strategy acknowledges that social identity ('we coastal fishers') comes more to the fore in the presence of an outgroup ('you climate scientists') and takes advantage of people's desire to belong to groups and motivation to maintain a positive social identity (see also Figure 4). In this sense, communicators attend to both the scientific content of information and the social-identity-level lens through which the fishers interpret information.

Using ingroup messengers

Another helpful technique for enhancing engagement could be to give a platform to a representative from the coastal fishers' ingroup who is at the same time a knowledgeable, trustworthy and recognised fisher. Following Hogg and Reid (2006) and Kahan et al. (2011), people are less resistant to considering and trusting information when they know that an experienced and familiar ingroup member with converging values accepts it. The following interview example might inspire such an approach. An interviewed fisher in his late fifties has been politically active in the local labour party since 1990 and is a voluntary member of the Norwegian Fishermen's Association (their main focus is to safeguard fishers' best interests). His biggest concern is, as he underlines, to raise awareness of the problem of climate change among his fisher colleagues. "I talk about climate change. I am not afraid to talk about it. Maybe I talk too much [laughing], but that's my problem. I want to talk about it and I want people to see it my way. So that's why I talk about it" (interview, 2015).

Other interview partners, both fishers and community representatives who know this fisher personally, confirm that he has achieved considerable respect and recognition among the coastal fishers over the years due to his profound knowledge and his background as a practising cod fisher, politician and fishers' lobbyist. This example illustrates that (prototypical) fishers like him could be trustworthy spokespersons, or so-called "ingroup messengers" (Fielding and Hornsey 2016, fourth section, para. 2), mediating between policymakers, scientists and the Lofoten coastal fishers. A much-needed platform could be provided by engaging him (and his expertise) in scientific research on storm frequency and adaptation and reporting on this collaboration in local media or climate policy recommendations.

Consistent with the social identity approach, there is a need for pro-active messages to come from ingroup members whenever possible. Important, however, is the match between relative accessibility (i.e. perceiver readiness) and category-stimulus fit (see assumptions above). The former means that the fishers must be psychologi-

Whereas a great deal of scientific attention has been dedicated to understanding the dynamics and impacts of climate change, comparatively little effort has been devoted to climate change information and communication strategies (Leal Filho 2019).

Another important issue to consider is that often climate communication fails to sufficiently take into account the diversity and heterogeneity of its audience (Leal Filho et al. 2019; YPCCC 2019).

cally predisposed to use the coastal fisher category as a basis for appraisal and action (which is the case in this instance of climate impacts on coastal fishers). The latter is determined by two factors. One is that the fishers categorise themselves and the ingroup messenger as members of the same category ('we coastal fishers') based on the accentuation of ingroup similarities (comparative fit). The other one is that the content associated with the ingroup messenger (e.g. concern with safeguarding income from fisheries) aligns with prototypic expectations (normative fit). A mismatch between relative accessibility, comparative and normative fit would lead to an ingroup-outgroup differentiation ('we coastal fishers' versus 'you outgroup messenger'), which, in turn, would increase the likelihood that messages become less trusted and credible and therefore less influential.

Forging a higher-level social identity

Taking this aforementioned strategy a step further, forging a superordinate or higher-level social identity might be an effective way to reduce negative intergroup relations – for example, 'us, the coastal fishers' and 'them, the climate scientists we mistrust'. As explained by Fielding and Hornsey (2016), a more inclusive identity level can help to ease intergroup conflict because it subsumes conflicting identities and shifts the group context from 'us' versus 'them' (lower-level category) to 'we' (higher-level category). Past research has demonstrated that this strategy has been able to reduce prejudice and racial discrimination (Gaertner and Dovidio 2000), conflict over watershed restoration in the United States (Samuelson et al. 2003) and conflict in global climate negotiations at the United Nations Conference of the Parties (COP 15) in Copenhagen in 2009 (Batalha and Reynolds 2012). Applied to the present case study, rendering a social identity at the next level salient (i.e. 'we Lofoter' or 'we Norwegians') could perhaps be achieved by inclusive language and communicating existing similarities (formation of shared concerns and interests) between both groups, i.e. coastal fishers and scientists, (e.g. 'we Norwegians' – which includes both the coastal fishers and the scientists – rely heavily on natural resources, which should be taken into consideration when implementing adaptation strategies). It may also be helpful to explicitly integrate the fishers' local knowledge on climate change in adaptation recommendations to foster a shared group identification. Ideally, the formation of a higher-level group identity allows the breaking down of subgroup boundaries and the reduction of ingroup bias (based on social comparison and positive distinctiveness), leading to former outgroup members being granted the same kind of positive evaluations that were previously restricted to the ingroup. This, in turn, can lead to greater acceptance of science and support for action. According to Batalha and Reynolds (2012), it is feasible to vary the ways in which people self-categorise to accentuate the likelihood of one level being more psychologically operative than another, without losing or negating the lower-level identity. This also corresponds to the aforementioned concept of functional antagonism (cf. also Figure 3).

Promoting pro-active ingroup norms

When thinking about how to promote more climate action from a social identity perspective, another important consideration is **what kind of (action-impeding) ingroup norms exist and how can such content of ingroup identity be shifted in a direction that can help to promote action** and positive social change. Following van der Linden et al. (2015) and Fielding and Hornsey (2016), the idea here is that providing messages that highlight possible pro-active ingroup's norms will favour group members' attitudes and behaviour towards climate action. As described earlier (see Figure 4), the fishers validate their opinions and decisions through social identification with familiar ingroup members (e.g. whether participating in

NCFA climate information events or not). Thus, rather than drawing attention to the negative ingroup norms (e.g. climate action is not considered necessary, especially among the older fishers), the focus needs to be on the positive norms (e.g. the young fishers are generally more likely to support climate action). Negative ingroup norms might be attenuated, for example, by emphasising what (some) group members approve of, and by using ingroup messengers, described above, that help to change the set of ingroup agreements, enforce beneficial norms and, in the end, climate action.

Reframing climate change

According to the prevailing opinion of the interviewed fishers, much of the media, scientific and policy discourse around Arctic climate change only highlights losses, costs and severe, uncertain threats.

This one-sided perspective fosters and manifests their concern, fear and helplessness, as well as the wish to avoid the topic. In addition, as noted by the interviewees, the media and, in particular, scientists use language heavily steeped in threatening, stressful expressions such as "irreversible", "worse than previously thought", "extremely rapid" or "disastrous". These case study results are also in entire agreement with emerging studies on climate-change communication and public engagement (cf. e.g. Center for Research on Environmental Decisions 2009; Nisbet 2009). Hence, what is needed is a shift in communication away from fear-mongering narratives and tales of encroaching disaster to a much stronger focus on clear messages, specific policy solutions and positive examples (e.g. recasting the influx of southern fish species as an opportunity to diversify income structures). For example, in accordance with van der Linden et al. (2015), additionally framing climate change and corresponding policy solutions in terms of what can be gained (and not only in terms of what is or will be lost) may weaken existential threats, fear and anxiety. In consequence, the fishers might be more likely to address climate concern more openly and face climate adversity more offensively, also in their professional life context (i.e. decrease of contradictory beliefs with regard to climate concern). This way of framing, which sets another "train of thought in motion" (Nisbet 2009, p. 15), also corresponds to Lazarus and Folkman's notion of challenge appraisals, which, as opposed to threat appraisals, refers to the potential for gain and growth. "The quality of functioning is apt to be better in challenge because the person feels more confident, less emotionally overwhelmed, and more capable of drawing on available resources than the person who is inhibited or blocked" (ibid. 1984, p. 34). The assumption here is that this might weaken action-impeding ingroup normative behaviour (less ingroup bias) as a reduction in fear may render negative ingroup norms (e.g. invulnerability of tough fishers) less influential.

Case: Conclusions

In this article, I have provided an overview of the social identity approach, encompassing social categorisation theory and social identity theory, and indicating how this theoretical lens can help explain and seek solutions to apparent contradictions in expressions of climate concern and to climate inaction among the Lofoten coastal fishers. Two important general findings can be extracted from this case study.

- **First, as with social categorisation theory,** the fishers categorise themselves in terms of personal identities and in terms of social identities in the climate change context and under certain circumstances, social identities become more important or influential than personal identities in the perception of oneself (functional antagonism).

- **Second, as with social identity theory,** the fishers' behaviour then changes from individual to group as they act more in terms of social than personal identity.

More specifically, as outlined above, the evidence for this is that:

- the expression of climate concern varies depending on the appraised severity of climate impacts and corresponding identity salience and emotional response (denial of existing climate concern in the professional life context as a mechanism to cope with severe existential threats and uncertainty in contrast to more openly addressed concern in private life contexts that are appraised as being less threatened by climate change);

- when the fishers categorise themselves in terms of their social identity as coastal fishers (social categorisation and social identification), a shared (self-protecting) belief of invulnerability to climate change comes to the fore, and

- intertwined with this, negative intergroup relations, such as 'we coastal fishers' versus 'you climate scientists' (social comparison and positive distinctiveness), can act as psychological barriers to climate action because ingroup bias leads to distrust of outgroup members and less likelihood of developing consensual solutions.

Understanding the **influence of social identity on climate action is essential to develop effective strategies in climate change communication and promote more public climate engagement.** Such communication strategies include but are not limited to:

- tapping into identity affirmation to take advantage of strong ingroup identification,
- using ingroup messengers to better access the perceivers' mindsets,
- forging a higher-level social identity to reduce intergroup conflict,
- promoting pro-active ingroup norms to benefit from pre-existing positive ingroup norms, and
- reframing climate change to reduce fear and anxiety and, in turn, loosen ingroup-outgroup boundaries.

Past research has made some progress in providing the empirical evidence to support these claims (cf. also Fielding and Hornsey 2016). Yet, there is still some way to go in validating these communication strategies and identifying more far-reaching social identity-based insights and tactics to address climate inaction. Whereas a great deal of scientific attention and effort have been dedicated to understanding the dynamics and impacts of climate change (see, e.g., the five United Nation's IPCC-Assessment Reports delivered since 1990), comparatively little effort has been devoted to climate change information and communication strategies (Leal Filho 2019).

For example, as criticised by Fielding and Hornsey (2016), research in the environmental field has heavily focused on individual actions, such as recycling and energy and water conservation, but neglected, or only tangentially considered, the impact of group behaviour and its underlying processes on people's responses to climate change. Stoknes (2015, p. 95) makes a similar point when he argues that "conventional climate information has targeted the individual mind as if it is not

swayed by colleagues and friends". However, and this is also the central argument of this paper, research on climate action that solely adopts an individual lens and disregards the social-psychological role of self-categorisation and group belonging falls too short to adequately approach the (often hidden) complexity of people's meaning making. It bears the risk of overlooking contradictory beliefs as subtle signs of uncertainty and helplessness, misinterpreting interview statements, and thus drawing misleading and one-sided conclusions. Instead, to meet this challenging task, both individual and group-based approaches as well as transdisciplinary collaboration (e.g. between fishers and scientists) are needed to expand expertise beyond the viewpoints offered by only one perspective and thus provide us with richer understanding of the climate knowledge-action gap. The human ability to think and feel in terms of 'we' and 'us', not just 'I' and 'me', makes evident the need to pursue group-based perspectives. To echo Turner and Reynolds (2012, p. 405), "humans are not merely individuals and neither are our minds. Individuals, groups and intergroup relations exist". A similar conclusion is drawn by Liebermann (2013), who from the perspective of social cognitive neuroscience highlights that the human need to reach out to and connect with others is so strong that it is one of the primary drivers of human behaviour. Therefore, group-based aspects cannot be ignored. As discussed in this paper, group membership can hamper climate action, but it might be a powerful lever of positive change as well. For example, shifting the group context from 'us' versus 'them' to 'we' might provide the impetus for positive behavioural change.

Another important issue to consider is that often climate communication fails to sufficiently take into account the diversity and heterogeneity of its audience (Leal Filho et al. 2019; YPCCC 2019). It is extremely difficult to achieve across-the-board, full public engagement because, as pointed out by the Yale Program of Climate Change Communication (YPCCC 2019), climate communication occurs within a highly complex and dynamic system of individuals, social groups, organisations, and institutions. Each audience (small-scale coastal fishers, large-scale offshore fishers, politicians, less-educated people etc.) has long-established knowledge, beliefs, interests and goals of their own. Even though some of these factors may be the same among various audiences, there are many which are quite specific and unique (e.g. the fishers' accentuation of their toughness at sea).

Likewise, Leal Filho (2019) notes that the range of mindsets of each audience is so wide that reaching all of them with one message seems an impossible task. He suggests that, instead of a 'one-size fits-all' approach, audience-specific information and communication programmes that "'speak the language' of each audience" and frame messages which coincide with their worldviews, are likely to yield greater benefits. This position is also in line with the social identity approach, which posits that information does not have a fixed or objective meaning, but rather is a context-dependent outcome of self-categorisation processes (Turner et al. 1987). Furthermore, it holds that the meaning of information varies as a function of salient identities and its relevance for ingroup norms. This is, as the above analysis of contradictory statements and ingroup bias shows, also true for the present case study.

Lastly, a crucial point to raise is that, as illustrated by Leal Filho (2019) and documented by the above 'use ingroup messenger' strategy, the most effective means to reach the various audiences also differ. For example, whereas the **Lofoten coastal fishers are best reached through intragroup channels and local networks such as the Norwegian Coastal Fishermen's Association (NCFA), politicians particularly gain information from the media and specialist cycles, and schoolchildren are easily reached in the classroom.** In sum, targeted climate communication via the events and vehicles which specific groups normally use and trust is key to reaching their minds.

In sum, targeted climate communication via the events and vehicles which specific groups normally use and trust is key to reaching their minds.

Contact:

Dr. Anna Lena Bercht
Geographisches Institut
Christian-Albrechts-Universität
zu Kiel
Ludewig-Meyn-Straße 14
24098 Kiel
Tel.: +49 431 880 4365
bercht@geographie.uni-kiel.de
www.stadtgeo.uni-kiel.de/
de/team/bercht

Advancing climate communication and reducing climate inaction is admittedly a very difficult and elaborate process. Apart from knowledge on climate change based on facts and figures, finding the right balance in conveying the right message to a specific audience through the best means available is a challenging task. Also, I acknowledge that there is always a degree of uncertainty and vagueness contained within interpretivist explanations of socially constructed realities and qualitative research of psychological processes, such as form the basis of this paper's results. This can be especially uncomfortable for researchers who pursue rigorous answers. Nevertheless, I advocate withstanding this fuzziness and engaging with the challenging and complex but vital topic of group-based psychological barriers to climate action. The battle over climate action is – to a large extent – fought in people's heads. Hence, I advocate qualitative approaches to better understand and resolve this elusive battle.

In considering directions for future research, I encourage researchers to adopt a social identity approach to focus on self-categorisations, identity salience and group dynamics that can have significant impacts. Going beyond the individual level, knowing one's audience and tailoring climate communication to the specific means and audience are key ingredients in climate communication success. Following Leal Filho (2019), it is thereby important not only to inform and educate but also to encourage and monitor people's action to ensure that climate communication strategies have achieved what is expected from them. There is a long and stony road ahead of us, passing through demanding territory. However, like a road-map, the social identity approach helps us to know where we are and provides a sense of what we need to consider as we seek to move ahead.

ENDNOTE

[1] The climate change concern index, applied in this Pew study, is operationalised by three survey questions that ask about the extent to which people believe global climate change is a serious problem, is harming people now and will impact them personally at some point in their lives (Pew Research Center 2015).

ACKNOWLEDGEMENTS

The empirical results discussed in this CASE are based on research within the frame of the project "Building Resilience Through Translocality: Intergroup Relations in the Norwegian Arctic in the Face of Global Change" funded by the Fritz Thyssen Foundation from 2015 to 2017 (grant number Az. 20.140.100). I am deeply thankful their generous support.

REFERENCES

AMAP (Arctic Monitoring and Assessment Programme) (2012): Arctic Climate Issues 2011: Changes in Arctic Snow, Water, Ice and Permafrost. AMAP, Olso.

AMAP (Arctic Monitoring and Assessment Programme) (2017): Adaptation Actions for a Changing Arctic (AACA). Barents Area Overview Report. AMAP, Oslo.

APA (American Psychological Association) (2009): Psychology and Global Climate Change: Addressing a Multifaceted Phenomenon and Set of Challenges. A Report by the Task Force on the Interface Between Psychology and Global Climate Change. APA, Washington, DC.

Arctic Council (2016): Arctic Resilience Report. Stockholm Environment Institute and Stockholm Resilience Centre, Stockholm.

Batalha, L., K. J. Reynolds (2012): Aspiring to mitigate climate change: superordinate identity in global climate negotiations. In: Political Psychology 33 (5): 743-760.

Baumeister R. F., M. R. Leary (1995): The need to belong: Desire for interpersonal attachments as a fundamental human motivation. In: Psychological Bulletin 117: 497-529.

Bercht, A. L. (2017): No climate change salience in Lofoten fisheries? A comment on understanding the need for adaptation in natural resource dependent communities. In: Climate Change 144 (4), 565-572.

Bercht, A. L. (2019): Sleepwalking into disaster? Understanding coping in the broader field of mental barriers. Examples from the Norwegian Arctic in the face of climate change. In: Kendra, J., S. G. Knowles, T. Wachtendorf (eds.): Disaster Research and the Second Environmental Crisis: Assessing the Challenges Ahead. Cham: 137-160.

Bhaskar, R. (2008): A Realist Theory of Science. With a New Introduction. London.

Broch, H. B. (2013): Social resilience. Local responses to changes in social and natural environments. In: Maritime Studies 12 (6): 1-17.

Center for Research on Environmental Decisions (2009): The psychology of climate change communication: A guide for scientists, journalists, educators, political aides, and interested public. Center for Research on Environmental Decisions (CRED) at Columbia University, New York.

Dahlke, F. T., et al. (2018): Northern cod species face spawning habitat losses if global warming exceeds 1.5°C. In: Science Advances 4 (11): eaas8821.

Dannevig, H., G. K. Hovelsrud (2016): Understanding the need for adaptation in a natural resource dependent community in Northern Norway: issues, knowledge and values. In: Climate Change 135: 261-275.

Directorate of Fisheries (2019): Data from register of Norwegian fishermen. URL: https://www.fiskeridir.no/English/Fisheries/Statistics/Fishermen-fishing-vessels-and-licenses (last access: 26 June 2019).

Dovidio, J. F., S. L. Gaertner, E. L. Thomas (2013): Intergroup Relations. In: Levine, J. M. (ed.): Group Processes. New York: 323-349.

Dryzek, J. S., R. B. Norgaard, D. Schlosberg (2013): Climate-Challenged Society. Oxford.

ESS (European Social Survey) (2018): European Attitudes to Climate Change and Energy: Topline Results from Round 8 of the European Social Survey. URL: http://www.europeansocialsurvey.org/docs/findings/ESS8_toplines_issue_9_climatechange.pdf (last access: 20 June 2019).

Fielding, K. S., M. J. Hornsey (2016): A Social Identity Analysis of Climate Change and Environmental Attitudes and Behaviors: Insights and Opportunities. In: Frontiers in Psychology 7: 121.

Fossheim, M., et al. (2015): Recent warming leads to a rapid borealization of fish communities in the Arctic. In: Nature Climate Change 5: 673-678.

Gaertner, S. L., J. F. Dovidio (2000): Reducing Intergroup Bias: The Common Ingroup Identity Model. Philadelphia.

Gifford, R. (2011): The Dragons of Inaction. Psychological Barriers That Limit Climate Change Mitigation and Adaptation. In: American Psychologist 66 (4): 290-302.

Gifford, R. (2013): Dragons, mules, and honeybees: Barriers, carriers, and unwitting enablers of climate change action. In: Bulletin of the Atomic Scientists 69 (4): 41-48.

Gifford, R., K. Lacroix, A. Chen (2018): Understanding responses to climate change: Psychological barriers to mitigation and a new theory of behavioral choice. In: Clayton, S., C. Manning (eds.): Psychology and Climate Change: Human Perceptions, Impacts, and Responses. London: 161-183.

Haslam, S. A. (2004): Psychology in Organizations. The Social Identity Approach. Second Edition. London.

Hogg, M. A., S. A. Reid (2006): Social Identity, Self-Categorization, and the Communication of Group Norms. In: Communication Theory 16: 7-30.

Hogg, M. A. (2007): Uncertainty-identity theory. In: Zanna, M. P. (ed.): Advances in experimental social psychology, Volume 39. San Diego: 69-126.

Hogg, M. A. (2012): Uncertainty-identity theory. In: Van Lange, P. A. M., A. W. Kruglanski, E. T. Higgins (eds.): Handbook of theories of social psychology, Volume 2. Thousand Oaks, CA: 62-80.

Hogg, M. A. (2016): Social identity theory. In: McKeown, S., R. Haji, N. Ferguson (eds.): Understanding Peace and Conflict Through Social Identity Theory. Contemporary Global Perspectives. Cham: 3-17.

Hornsey, M. J. (2008): Social Identity Theory and Self-categorization Theory: A Historical Review. In: Social and Personality Compass 2 (1): 204-222.

IPCC (International Panel on Climate Change) (2014a): Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge/New York.

IPCC (International Panel on Climate Change) (2014b): Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Reginal Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge/New York.

Kahan, D. M., H. Jenkins-Smith, D. Braman (2011): Cultural Cognition of Scientific Consensus. In: Journal of Risk Research 14: 147-174.

Kahan, D. M. (2017): Misconceptions, Misinformation, and the Logic of Identity-protective Cognition. Cultural Cognition Project Working Paper Series No. 164, Yale Law School. New Haven.

Kameda, T., R. S. Tindale (2006): Groups as adaptive devices: Human docility and group aggregation mechanisms in evolutionary context. In: M. Schaller, J. A. Simpson, D. T. Kenrick (eds.): Evolution and social psychology. Madison, CT: 317-341.

Lavigne, G. L., R. J. Vallerand, L. Crevier-Braud (2011): The Fundamental Need to Belong: On the Distinction Between Growth and Deficit-Reduction Orientations. In: Personality and Social Psychology Bulletin 37 (9): 1185-1201.

Lazarus, R. S., S. Folkman (1984): Stress, appraisal, and coping. New York.

Leal Filho, W. (2019): An Overview of the Challenges in Climate Change Communication Across Various Audiences. In: Leal Filho, W., B. Lackner, H. McGhie (eds.): Addressing the Challenges in Communicating Climate Change Across Various Audiences. Cham: 1-11.

Leal Filho, W., B. Lackner, H. McGhie (eds.) (2019): Addressing the Challenges in Communicating Climate Change Across Various Audiences. Cham.

Lee, T. M., et al. (2015): Predictors of public climate change awareness and risk perception around the world. In: Nature Climate Change 5: 1014-1020.

Lieberman, M. D. (2013): Social: Why our brains are wired to connect. New York.

Marshall, G. (2014): Don't even think about it. Why our brains are wired to ignore climate change. New York.

Moser, S. C. (2016): Reflections on climate change communication research and practice in the second decade of the 21st century: what more is there to say? In: Wiley Interdisciplinary Reviews: Climate Change 7: 345-369.

Nisbet, M. C. (2009): Communication climate change. Why frames matter for public engagement. In: Environment: Science and Policy for Sustainable Development 51 (2): 12-23.

Norgaard, K. M. (2009): Cognitive and behavioral challenges in responding to climate change. Background paper to the 2010 world development report. Policy Research Working Paper 4940. World Bank, Washington, DC.

Norwegian Ministry of Climate and Environment (2015): Update of the integrated management plan for the Barents Sea – Lofoten area including an update of the delimitation of the marginal ice zone. Meld. St. 20 (2014–2015) Report to the Storting (white paper). Oslo.

Nymand Larsen, J., G. Fondahl (eds.) (2014): AHDR – Arctic Human Development Report: Regional Processes and Global Linkages. Copenhagen.

Osborne, E., J. Richter-Menge, M. Jeffries (eds.) (2018): Arctic Report Card 2018. URL: https://arctic.noaa.gov/Portals/7/ArcticReportCard/Documents/ArcticReportCard_full_report2018.pdf (last access: 28 June 2019).

Øseth, E. (2011): Climate change in the Norwegian Arctic. Consequences for life in the north. Norwegian Polar Institute, Tromsø.

Pew Research Center (2015): Global concern about climate change, broad support for limiting emissions. URL: https://www.pewresearch.org/wp-content/uploads/sites/2/2015/11/Pew-Research-Center-Climate-Change-Report-FINAL-November-5-2015.pdf (last access: 20 June 2019).

Pew Research Center (2019): Climate Change Still Seen as the Top Global Threat, but Cyberattacks a Rising Concern. URL: https://www.pewresearch.org/global/wp-content/uploads/sites/2/2019/02/Pew-Research-Center_Global-Threats-2018-Report_2019-02-10.pdf (last access: 20 June 2019).

Postmes, T., N. R. Branscombe (2010): Sources of social identity. In: Postmes, T., N. R. Branscombe (eds): Rediscovering Social Identity: Core Sources. New York: 1-12.

Reicher, S., R. Spears, S. A. Haslam (2010): The Social Identity Approach in Social Psychology. In: Wetherell, M., C. T. Mohanty (eds.): The SAGE Handbook of Identities. London: 45-62.

Samuelson, C. D., T. R. Peterson, L. L. Putnam (2003): Group identity and stakeholder conflict in water resources management. In: Clayton, S., S. Opotow (eds.): Identity and the Natural Environment. Cambridge: 273-295.

Stoknes, P. E. (2015): What we think about when we try not to think about global warming. Toward a new psychology of climate action. White River Junction, VT.

Sussman, R., R. Gifford, W. Abrahamse (2016): Social Mobilization: How to Encourage Action on Climate Change. Pacific Institute for Climate Solutions, University of Victoria. Victoria, BC.

Tajfel, H. (1974): Social identity and intergroup behaviour. In: Social Science Information/Information sur les sciences sociales 13 (2): 64-93.

Tajfel, H., J. C. Turner (1979): An integrative theory of intergroup conflict. In: Austin, W. G., S. Worchel (eds.): The social psychology of intergroup relations. Monterey, CA: 33-48.

Turner, J. C. (1985): Social categorization and the self-concept: A social-cognitive theory of group behavior. In: Lawler, E. J. (ed.): Advances in group processes: Theory and research, Volume 2. Greenwich, CT: 77-122.

Turner, J. C., et al. (1987): Rediscovering the social group: A self-categorization theory. Oxford.

Turner, J. C. (2007): Self-categorization theory. In: Baumeister, R. F., K. D. Vohs (eds): Encyclopedia of Social Psychology. Thousand Oaks: 793-794.

Turner, J. C., K. J. Reynolds (2012): Self-Categorization Theory. In: Van Lange, P. A. M., A. W. Kruglanski, E. Tory Higgins (eds.): Handbook of Theories of Social Psychology, Volume 2. London: 399-417.

van der Linden, S., E. Maibach, A. Leiserowitz (2015): Improving Public Engagement With Climate Change: Five "Best Practice" Insights From Psychology Science. In: Perspectives on Psychological Science 10 (6): 758-763.

YPCCC (Yale Program on Climate Change Communication) (2019): What is Climate Change Communication? URL: https://climatecommunication.yale.edu/about/what-is-climate-change-communication/ (last access: 02 August 2019).