



Sveriges lantbruksuniversitet  
Swedish University of Agricultural Sciences

Faculty of Natural Resources and  
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# Why We Don't Change for Climate Change

– motivational effects of different perspectives

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## Abstract

Lately, climate change communications have shifted focus from confirming the problem to promoting solutions, a move that involves more complex cognitive functions of motivation and social contexts. Increased media coverage of climate change solutions has not lead to an increase in climate engagement, implying that it's not the volume but the design of climate change communication that matters most.

Using data from expert interviews with respondents who have experience of people's opinions of climate change, different perspectives of climate change and engagement were collected. Based on social cognitive theory by Albert Bandura, these perspectives were analysed with regards to how they affect engagement.

Several key factors to the lack of engagement were found, such as a problem focus instead of solution focus and a lack of connection between individual action and large emissions. Common disengagement practices that aid in justifying personal lack of engagement were also identified. These results can be used in further communication to inform how messages can be constructed to create ideal conditions for climate change engagement in parts of the public.

*Keywords:* climate change, social cognitive theory, motivation, engagement, communication

## Sammanfattning

Klimatkommunikation har på senaste tiden bytt fokus från att bekräfta problemets existens mot att uppmana till lösningar, ett budskap som ger upphov till mer komplexa kognitiva funktioner relaterade till motivation och sociala sammanhang. Ökad medierapportering om lösningar till klimatkrisen har inte lett till ett ökat klimatengagemang, vilket betyder att det inte är mängden utan typen av klimatkommunikation som är mest avgörande för engagemanget.

Med data från expertintervjuer med personer som har stor erfarenhet av individers åsikter i klimatfrågan kunde olika perspektiv om klimat och engagemang samlas in. Med hjälp av *social cognitive theory* av Albert Bandura analyserades dessa perspektiv relaterat till hur de påverkar engagemang.

Flera nyckelfaktorer till avsaknad av engagemang hittades, bland annat ett fokus på problemen i stället för lösningarna och en avsaknad av kopplingar mellan individuell handling och större utsläpp. Vanliga sätt att distansera sig för att kunna rättfärdiga en avsaknad av engagemang identifierades också. Dessa resultat kommer kunna användas i framtida kommunikation för att ta reda på mer om hur budskap kan konstrueras för att ideala förutsättningar för klimatengagemang kan skapas i delar av befolkningen.

*Nyckelord:* klimatförändringar, social kognitiv teori, motivation, engagemang, kommunikation

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# 1 Introduction

Greenhouse gas (GHG) emissions can be connected to almost every part of the modern Swede's life. According to per capita emission models, two thirds of the average Swede's total GHG emission amount of 11 tonnes of carbon dioxide equivalents is connected to their lifestyle (Naturvårdsverket, 2018).

For each passing year, the importance of rapid climate action has been increasingly emphasized by climate researchers. Despite this, climate policies and environmentally friendly behaviour are far from a sustainable level (Climate Action Tracker, 2018). In the face of crisis-level urgency reports, this can be a sign that there are gaps between scientific knowledge, policy making and adoption of low emission behaviour.

Mass media plays a large role in setting a community's agenda (Scheufele & Tewksbury, 2007). For this reason, a failure to prioritize climate change information in individual decision making can be connected to how mass communications are interpreted.

## 1.1 Media influence on public opinion

There is no doubt that an individual's worldview is shaped through the consumption of mass media. Most of the world cannot be accessed directly, but only through the media's representation of it. Within communications research there are two prominent theories of how media coverage affects attitudes (Weaver, 2007). The theory of priming, explaining how increased exposure to a certain issue in media stories leads to an increased perceived importance of the issue, has been most prominent in political communication for a long time (Scheufele & Tewksbury, 2007). The case of climate change seems to reject this theory, as an increased climate coverage in the media does not seem to lead to a corresponding increase in prioritization of climate change action among individuals (McDonald, 2009). Conversely, framing theory, detailing how representing a problem from certain perspectives affects the public definitions of the problem, has been shown to have significant effects on the willingness to act more climate-friendly (Gifford & Comeau, 2011; Scannell & Gifford, 2013).

Many studies have been conducted that focus on how specific orientations of news texts arrange framing and priming effects in individuals, mainly related to political campaigns and elections (Rhee, 1997; Hwang et al., 2007; Sheafer, 2007). However, as the social world becomes more digitalised, an increasing amount of information is gained from social networks. Thus, a framework that takes both message content and social context into account is warranted.

## 1.2 Social cognitive perspectives on learning

The social cognitive concept of self-regulated learning has been discussed and developed thoroughly since the late 1960's (Zimmerman, 1989; Martin, 2004). Self-regulated, in this context, refers to how learning is not exclusively personal nor social, but rather a result of the interplay between personal, behavioural and environmental influences. According to this view on learning, personal motivators combine with environmental factors to determine the effectiveness of the learning experience (Zimmerman, 1989). The results of these discussions have been used in fields such as academic learning and educational psychology (Martin, 2004; Garrison, 2007).

Social cognitive theories on learning have also been applied to other fields of research; to environmental science in order to understand motivations (or lack thereof) to make energy saving efforts in households (Thøgersen & Gronhoj, 2010) or to understand how social learning can be used to promote environmentally friendly behaviour (Robelia et al., 2011); as well as combined with mass communication to fields such as health care (Bandura,

2004) and political science (Boeckmann & Tyler, 2002). This framework can be used to understand how messages are interpreted in social settings, however these insights have yet to be applied to the field of climate change.

### 1.3 Current study

The aim of the present study is to increase understanding for how common perspectives on climate change encourage or discourage personal climate engagement. Using a social cognitive view on symbolic modelling (Bandura, 2001) it attempts to give a new perspective on processes that translate climate change information into individual action.

The political election of 2018 in Sweden enabled many discussions between organisations and individuals, including discussions about climate change. However, despite this, climate change was not highly considered when deciding which political party to vote for (Holmberg & Ekengren Oscarsson, 2018), indicating that some aspect of these discussions promoted perspectives that discourage engagement. For this reason, interviews were held with members of political parties and NGOs that were active in Uppsala before and during the election, in order to collect perspectives that were commonly brought up during these discussions. Uppsala is the fourth largest city in Sweden, and the municipality has worked relatively ambitiously with climate change for several years.

Data gathered from 13 interviews will add to the scientific debate regarding the connection between knowledge and behaviour. The use of a relatively new framework to connect perspectives on climate change to learning of new behaviours presents a broad perspective on climate engagement research, and potentially a new tool for understanding how knowledge and behaviour are affected by mass communication.

The conclusions made by this study can be used to inform further mass communications about climate change taking common perspectives into consideration and can also be used as a tool to develop and evaluate strategies where climate impacts of actions are communicated. While the method of this study does not allow it to give direct answers as to what communication strategies are most appropriate for a target population, it does answer the question of which conceptions are common and how communication could affect them.

In the following sections the theoretical framework within which the study is designed is explained and the procedure and limitations of the study are outlined. The relevant data gathered during the study are presented in relation to the theoretical framework. Finally, the results and their potential usefulness in the field of climate change communication are discussed.



## 2 Social Cognitive Theory of Mass Communication

Social cognitive theory is a framework in which human action is explained as a process involving several factors. At its core, humans are inclined to pursue actions that are expected to result in feelings of self-worth and progress towards an intended goal. These actions are in turn regulated and scrutinized by personal and social sanctions to ensure that they fulfil their intended purpose. In this way human action is driven by a triadic relation between personal intention, behaviour and social sanctions (Bandura, 2005). When applied to mass communications, social cognitive theory explains that different cognitive processes transform personal and vicarious experiences into symbolic models which can be operationalised into one's own behaviour and communicated further (Bandura, 2001). This phenomenon, labelled *observational learning*, is divided into four subfunctions, each necessary to translate received information into appropriate action. These four functions are affected by the information received itself, by social contexts, and by personal predispositions of the individual.

### 2.1 Attentional + Retentional processes

In the constant flow of external influences experienced every day, only a small subset is actively acknowledged (attention), and an even smaller subset persists in memory for an extended amount of time (retention). What properties make messages more likely to draw attention has been an area of vigorous study, especially within the subject of warning communications (Sutton et al., 2015). Literature on the subject has highlighted personal importance and presentation of the message as factors determining attention and retention given, as well as social status factors such as level of education. A message that elicits a high level of mental activity when received is more likely to be remembered than other messages (Grabe et al., 2008).

In a social cognitive framework, personal and social factors are added in determining attentional and retentional capacity of external influences. Personal preconceptions and values affect what is deemed interesting enough to be given attention. The message has a higher attentional value if its content is deemed "good" based on personal values. Social networks determine what information is accessible, and an individual's social position in relation to the messenger affects whether it is acknowledged. Information from a respected sender that relates to a subject that one enjoys has a high likelihood of being acknowledged.

Retention is affected by how easily external influences can be linked to previous skills in the form of memory codes and models. How these influences are remembered is affected by the preconceptions of the individual towards the information given, as well as the situations in which the information is recalled. Rehearsals of the modelled information, both cognitive and practical, increase its retentional capacity (Bandura, 2001).

In the general social cognitive theory of mass communication, attentional and retentional processes are divided into two subfunctions. In a study which is limited to researching the responses of individuals after the moment of influence, these two subfunctions cannot be divided, as anything that is presented in such a situation must both have been acknowledged and remembered. For this reason, these two subfunctions are collapsed into one for the current study.

To gather data related to this process, respondents were asked about general perspectives on climate change that are commonly discussed. These perspectives represented frames of climate change that had been generally acknowledged and remembered by the population.

## 2.2 Behavioural production processes

Once a model of information has been acknowledged and remembered, for it to translate into action, it must be connected to executable behaviours. Studies using social learning theories on environmental issues have found that information received in one context will not automatically enable appropriate action in another. For this connection to occur, persuasive communication in social contexts as well as the ability to repeatedly discuss the matter with peers are facilitating factors (Robelia et al., 2011).

The third subfunction of observational learning processes, according to SCT, explores this translation of modelled experiences into new courses of action. These *behavioural production processes* emphasize the importance of being able to apply these new actions into the context of one's own life, as well as the ability to repeatedly evaluate and adapt these actions for the most favourable result. The production of relevant subskills to be utilized in new or modified behaviour combined with a clear framework for evaluating the behaviour's effectiveness is more effective than modelling exact behaviours related to specific life situations (Bandura, 2001). For example, it is easier to change to low-emission behaviour if one knows what aspects of the behaviour are the cause of the emissions, and how to affect those aspects.

To understand how behavioural production processes have affected common perspectives on climate change, respondents were asked about concrete actions that have been discussed related to climate change. If an action is commonly discussed in relation to climate change, it can be assumed that it has been produced as a behaviour that affects the climate to some extent.

## 2.3 Motivational processes

Not every learned behaviour results in performed action. Low emission behaviour is, like other actions with abstract benefits, complex to motivate. The fourth and final subfunction of translation processes described by SCT, labelled *motivational processes*, has *self-efficacy* as a central concept. Self-efficacy relates to how confident an individual is that their behaviour has an effect on a situation's outcome. If an individual perceives themselves to be in control of a situation, able to address issues by taking specific actions, their self-efficacy is high, and the motivation to take these actions increases.

Another central concept is *outcome expectations*, meaning the positive or negative effects of the expected result from a certain behaviour. Before performing an action, outcome expectations are cognitively assessed, and the expected costs and benefits of the action determine the level of motivation to perform it. Perceived outcome expectations are based on direct experience or on vicarious experiences of individuals that are like oneself.

The third factor in SCT that affects motivation is sanctions. Certain actions are considered as sanctioned, either personally or socially. Personal sanctions are usually based in feelings of worth and self-satisfaction rather than specific arguments, while social sanctions can be based in norms of what is considered "appropriate". These sanctions may coincide or they may act in different directions. In the latter situation, for example when an action that correlates positively to personal values is subjected to social sanctions, the performance of that action depends on how strong the sanctions are in relation to each other. If the social sanction is strongest, the action may be avoided or performed outside of social situations, while if the personal value is stronger the action may be performed regardless of social sanctions. An example of this would be not adopting a new behaviour even though one knows that it would cause lower emissions, because the new behaviour does not match a perceived self-image or social conduct.

To gather data on motivational processes, respondents were asked about common arguments related to personal responsibility in engaging for the climate. These arguments could then be analysed based on what processes are commonly at play in affecting motivation to engage.

## 2.4 Moral disengagement practices

In a situation where an action considered by social or personal sanctions to be inappropriate is still being performed individuals may exercise what SCT refers to as *moral disengagement practices*. To justify the inconsistency between sanction and behaviour, sometimes referred to as *cognitive dissonance*, several cognitive techniques can be employed in different stages of moral consideration (see Fig. 1).

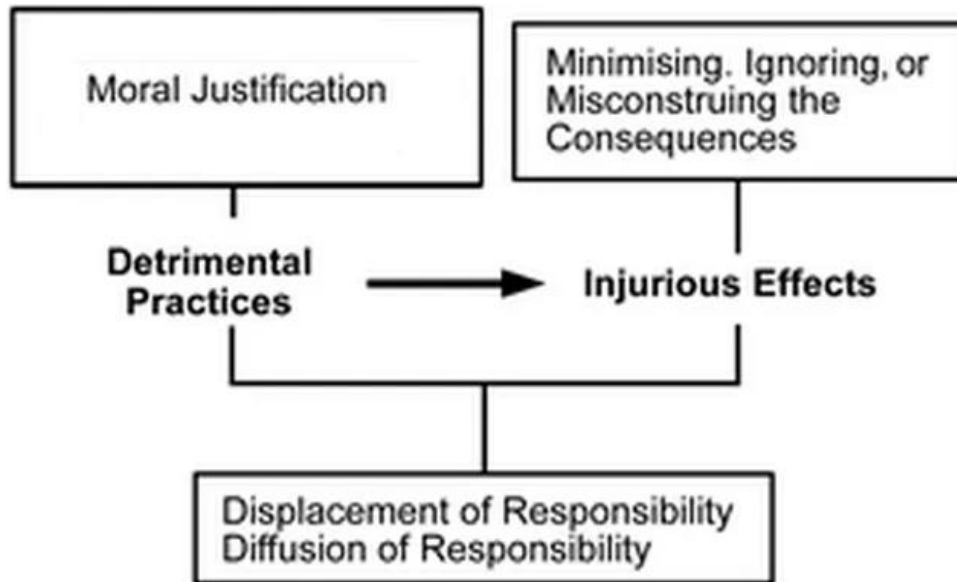


Figure 1: Visual model of disengagement practices and at what stage they are applied (modified from Bandura, 2007)

The applications of moral disengagement practices in the area of ecological sustainability have been explored in a rather opinionated article by Bandura (2007). In the area of climate change, a number of these practices are highlighted as especially significant.

*Moral or social justifications:* Much like how behaviours can be motivated by social and moral factors, these values can also be used to justify actions that can be considered harmful in other areas. In a situation where the choice of action is determined by clashing values, the decision to choose an action that may be harmful in one perspective is often justified by its positive effects in regards to another perspective. For example, an action that is considered to be detrimental by personal values can be justified by a will to conform to pressures from a social context. Conversely, a behaviour that is condemned by a social environment can be performed despite this if the personal justification is strong enough.

Justifying an action morally or socially has a dual effect towards the willingness to perform it - not only does it enable disengagement from detrimental effects of the activity, but it also presents a righteous motive to continue with the activity, actively motivating the behaviour (Bandura, 2007). In environmental studies, the social value of enterprise is an example of this practice. Promoting the value of creating jobs and economic growth in response to accusations of environmentally detrimental activity is a common way of justifying the action and creating a sense of self-approval. This means that not only are the negative consequences of the activity cognitively minimized, but it also creates a sense of positive contribution connected to the activity.

*Displacement of responsibility:* When a sanctioned activity cannot be justified by another value, moral consideration enters its second stage. At this stage, the effect of moral sanctions can be reduced by disengaging from the acknowledgement that one's own actions contribute to the problem. This can be done by displacing responsibility of the activity onto

other actors, structural factors or to society as a whole (Bandura, 2007). In practice, this is done either by blaming others for harmful effects, even when one's own actions have the same effect, or by disowning personal responsibility for one's own actions by claiming that the activity is forced by situational circumstances such as societal structures. Attributing the problem to natural factors or other circumstances that cannot be changed is another example of displacing responsibility.

*Diffusion of responsibility:* Another way of disengaging from personal contribution to a problem is to diffuse responsibility between a multitude of actors, making it difficult to determine whether one single actor is responsible in the present issue. In this way, personal responsibility can be considered insignificant when comparing it to the responsibility of the collective. This is commonly applied in industrial disasters (Bandura, 2007), however it can also be applied on a personal level when pertaining to problems that are caused by a large number of people. This psychological phenomenon, also known as the bystander effect, has been studied in relation to climate change and regarded as one of the reasons why personal engagement is seen as insignificant or futile (Booth, 2012; King, 2019).

*Minimising, misconstruing or ignoring consequences:* The third stage of moral consideration is engaged when an activity cannot be justified, and personal responsibility in the activity cannot be disengaged. At this stage, one must disengage from the negative effects that are the result of the behaviour. Minimising or entirely disputing an action's consequences is therefore a powerful tool for justifying one's action. If one can convince oneself that a specific action has little or no effect on a problem, or that the consequences of said problem are not as bad as reported, the motivation to change is reduced. If there are scientific studies that support the idea that the action has consequences, this science or the messengers that provide it can be discredited as a part of this practice.

A problem such as climate change, in which the detrimental effects are delayed into the future and exact consequences are relatively uncertain, minimising the consequences of personal actions is easier to do than more concrete, present issues. Thus, a deprioritization of climate change engagement can in many cases be connected to a misconstruction of its consequences when comparing it to problems that have immediate consequences and are very easy to understand. In such a situation, messengers that try to emphasize the importance of climate change can be discredited with words such as *doomsayers* or *tree huggers* (Bandura, 2007), to reinforce the idea that the consequences are not as detrimental as reported.

The data on disengagement practices was also collected from responses to the question about what arguments regarding personal responsibility are common – as these arguments can be related to processes that affect motivation, but also to processes that disengage from detrimental behaviour.

## 2.5 Application of theory to present case

In the present study, concepts outlined above will be used as tools to understand how current perspectives related to climate change affect engagement. The invisible nature of climate change effects means that the concept of it cannot be experienced directly and must be reported in some form of communication. For this reason, the use of Bandura's theory of mass communication is applicable, as it explores the mechanisms that govern how messages of mass communication are received, and more importantly how they translate into individual action.

In the case of climate change, the main source of information has historically been top-down or bottom-up initiatives of mass communication, focusing on the science and consequences of climate change and the actions that need to be taken to avert said

consequences (Moser, 2010). As public awareness of an issue increases, another source of information becomes increasingly important - social networks. Using a social cognitive approach that includes both reception of mass communicated information and the influences of a social context, this study hopes to expand the understanding of climate change engagement as governed by both an understanding of climate change information and by motivational factors related to personal and social properties.

The data gathered from interviews explain common perspectives and arguments related to climate change and are divided into sections governed by the subfunctions of processes that are explained in the theory. The data does not include an explicit connection to mass communications – this connection is implicit as the theory assumes that when the consequences of an action cannot be evaluated directly by an individual, as in the case of climate change, any learning process related to those consequences will be initiated by information gained from external sources, e.g. mass communications or social contexts. For this reason, connections will be made between the perspectives discovered in the current study and the communicated messages or social contexts that could influence them.

## 3 Methodology

Data was collected from expert interviews with individuals that have experience of common public perspectives about climate change. These data were analysed based on the before mentioned theoretical framework. In this section, the method of the study is outlined and discussed based on its relevance and limitations. Specific aspects of the outlined method include sampling, data collection and data analysis.

### 3.1 Sampling and general study design

The choice of method and mode of sampling applied in the present study were based on the type of data required, practical limitations and general assumptions of who will be able to give the most applicable data.

The required data involved understandings, perspectives and ways of thinking related to climate change engagement that are common within a population. To provide this, the theoretical framework required developed descriptions of motivations and understandings, thus preferring longer, in-depth interviews. Related to this is the issue of not knowing in advance what factors will be important in these descriptions, calling for an open-ended method. In addition, the limited resources of a master's thesis promotes time-efficient methods, and in that regard expert interviews with individuals who act as loci for common understandings are superior.

The above factors inform the decision to use expert interviews in order to gather the required data. An expert, in this context, is defined as someone who "is responsible for and has privileged access to the knowledge of specific groups of people" (Littig, 2009).

Specific interviewees were sampled based on three properties:

1. The person should have discussed climate change with a large amount of people, alternatively have gained knowledge of common understandings of climate change in another way.
2. The person should have been active in the subject of climate change since at least the summer of 2018.
3. Preferably, the person handles climate change issues regularly.

It is assumed that these individuals have, through discussions around and after the election, been able to get access to climate change understandings of many individuals, indicating an expert position in this study. The decision to sample individuals in Uppsala was an attempt to be as resource-efficient as possible, due to the practical limitations of a master's thesis. It also allowed the author to use personal contacts and networks to facilitate the search for applicable experts.

An attempt was also made to have an ideological spread of respondents in order to increase the generalisability of the results, as respondents are likely to have more knowledge of perspectives from people of the same ideology. For this reason, at least one participant from each political party was interviewed.

In order to reach experts that could be interviewed, political secretaries and others with relevant networks were contacted with a request to find an individual that matched the criteria. Some amount of snowball sampling<sup>1</sup> was also employed, as interviewees were likely to have a network of people engaged in climate change communication themselves.

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<sup>1</sup> Snowball sampling is the name for a procedure where "the researcher accesses informants through contact information that is provided by other informants" (Noy, 2008).

### 3.2 Interview design and data collection

Data collection was made by way of interviews with 9 members of political parties, 3 members of environmental NGOs and 1 independent climate profile. Respondents were asked about general understandings of climate change that they had noticed while interacting with others. When conducting expert interviews, an open-ended or semi-structured topic guide is considered appropriate (Bogner & Menz, 2009; Meuser & Nagel, 2009). For this study, a semi-structured interview guide was created (see appendix A).

When conducting expert interviews, it is important to provide room for the interviewee to expand and reflect on the questions asked (Meuser & Nagel, 2009). For this reason, while there was an interview guide with set questions, they were used loosely and interviewees were not interrupted when reflecting freely.

Interviews were held during the period of 22/1 to 27/2 2019, and the answers were recorded by audio file. The recordings were then used to make non-detailed transcriptions, where only passages which are relevant to the study were quoted - as is standard for expert interviews (Meuser & Nagel, 2009). These more manageable presentations of data were then used for analysis. Interviews were held in Swedish in order to improve the quality of data, and each interview was translated at the moment of transcription.

### 3.3 Data analysis

Using concepts from previous literature, as well as inductive categories created by comparing data, text from transcriptions was coded and common themes were identified. First, passages were coded based on the SCT process that they referred to. Data that did not relate to these theoretical concepts were disregarded. Secondly, passages were categorized thematically within each process.

The themes were compared in order to identify general trends in the data set as to what aspects of each process are present, and which ones are common. The qualitative nature of the study and the ideological spread of the sample meant that direct connections cannot be made between the frequency of a theme in the material and its frequency in the population. For this reason, a theme would need a broad representation in a significant portion of the dataset to be considered more common than another. On the same note, a theme that is only represented once can be considered significant, as any interviewee could represent a significant portion of the general population that is inaccessible by other interviewees.

Some measures were necessary to improve the objectivity and generalisability of the results. While it is impossible to entirely disregard the influence of the researcher's base assumptions while analysing text, each passage is interpreted as literally as possible, and an attempt is made to categorize passages by their direct likeness rather than their interpreted likeness. The original material was also continuously consulted to make sure that it was correctly understood during analysis.

### 3.4 Limitations

There is a significant sample bias in this study that needs to be taken into account. The conditions for sampling resulted in experts that were knowledgeable in the subject of interest, however it also resulted in a sample mainly composed of people who are engaged in climate change issues. Although interviewees were asked to disregard their own opinion when reporting perspectives, it is inevitable that the interview responses are to some degree coloured by personal preference. For this reason, it is possible that some common understandings of climate change are missing from these results due to respondents not interacting with them, however the relevance of achieved results is not compromised. The

collection of personal perspectives and understandings in the first part of each interview can be used to account for bias to some degree.

The use of expert interviews implies that any data collected is only of perspectives that are brought up in interaction with members of political parties and NGOs or that surface in another public arena. However, expert interviews do provide insight into perspectives that individuals are prohibitive about sharing in an interview setting, by being a representative that has the required knowledge but no feeling of taboo (Bogner et al., 2009). Nevertheless, conclusions made from this study must be made with acknowledgement that it may not represent every perspective that exists relating to climate change engagement.

Due to the use of expert interviews the results of the current study cannot be used as indications of what certain target groups think, but rather as a starting point to learn what different communication efforts lead to in terms of climate engagement.



## 4 Interview results

Data from interview transcriptions were categorized based on related SCT processes. Within each process, a second categorization was made where passages were grouped thematically. These themes were then assigned to sub-categories that were created either inductively from commonalities within the dataset, or deductively based on prior research (see Tables 1-4).

### 4.1 Attentional + Retentional processes

Climate change communication has in recent years made a shift from focusing on the existence and severity of the problem towards focusing on the importance of taking action and finding solutions (Nerlich et al., 2010).

In the present study, almost every respondent had experienced an increase in discussions related to climate change since the summer of 2018. There is an agreement in the material about one general perspective that is *problem* focused and one that is *solution* focused. Respondents were also asked about perceived underlying *reasons* for or against engagement. Three sub-categories were created with these concepts in mind (see Table 1).

Table 1: Sub-categories and themes within Attentional + Retentional processes

Sub-categories	Themes
Problem focus	Concerned
	Not concerned
	Need confirmation
	Denying
Solution focus	Committed
	Division of preferred solutions
	Solutions as unfair
Reasons to engage	Pre-existing values
	New input

#### 4.1.1 Problem focus

The mutual factor of all themes within this sub-category is that reported perspectives are all related to the existence or severity of the problem of climate change, but lack a clear focus on solutions to the problem as presented. Based on commonalities in the dataset, this sub-category has four themes: *concerned*, *not concerned*, *need confirmation* and *denying*.

The dominant theme within this category, represented in all 13 interviews, was perspectives that respond to climate change with concern. This type of perspective was also reported in a majority of interviews as most frequently occurring. The source of the concern is in part reported to be related to thinking about one's impact on the future, exemplified by one respondent reporting a connection between current lifestyles and future consequences: "*The way we live today is not sustainable, one starts to understand that how we travel, there is a problem with that*"

Another source of concern could be a recent awakening where current events connected to climate change have raised awareness about climate change. One respondent reported droughts and wildfires from the summer of 2018 as an example of this:

"... [Some people] had climate change in the back of their head before, but haven't really made the dive, they have made contact asking 'What can I do now, what is the first step I can take?' Because of drought and wildfires and such from this summer they may have realised that they have to act now."

Some individuals accepted the problem of climate change, but expressed *no concern* over it. In a few interviews this perspective was reported as most common. Some respondents related these perspectives to an understanding that the problem will solve itself without need for engagement. One respondent connected this understanding to being opposed to increased climate debates: “*Many come and say that it’s too much talk, anyone can understand that as long as we are not entirely hysterical and destroy the environment too much, it will solve itself.*”

Some perspectives involved *needing confirmation* due to the complexity of climate change issues and how there are many factors to consider, related to climate change or other aspects. Some respondents reported these considerations as leading to apathy or inaction until the nature of the problem is confirmed. One respondent made a direct connection between lacking clear knowledge and not taking a stance:

“The opinion that the climate issue is important, everyone agrees on (...) When it comes to things that require more knowledge, then I think people don’t have much of an opinion.”

A significant majority of respondents reported an occurrence of climate *deniers* that actively disregard the problem of climate change. In many cases these were reported as uncommon or diminishing, and that their vocalness made them seem more common than they are. One respondent exemplified both of these properties:

“There are some sites that spend a lot of time just finding facts that these are just normal changes in weather (...) Most people believe in climate change (...) those who are against it are stronger in coming in and arguing...”

#### 4.1.2 *Solution focus*

The sub-category of solution focused perspectives contains themes that are convinced about the existence of anthropogenic climate change, and have started paying attention to solutions to the problem. Three themes were identified based on commonalities in the material: *committed*, *division of preferred solutions* and *solutions as unfair*.

Every respondent reported at least one perspective that showed *commitment* to solutions related to climate change. In one interview, this perspective was reported as one of the most frequently occurring. There was a diversity in the material regarding the nature of commitment. In some interviews, the group was reported as one that is completely engaged. One respondent related this engagement to having, and trusting, knowledge:

“One opinion that I hear is that everything points towards climate change that is caused by humans (...) Scientists seem to agree, which means that no matter what we think, we must count on that and act.”

According to another respondent, this engagement comes from personal convictions:

“There are those who perceive the climate issue as determining for survival, both short and long term, and it is very important for these people to take action immediately to reduce climate changes caused by humans...”

In other interviews, this group was reported to be focused on very specific solutions, leading to a narrow picture of climate change engagement, as indicated by this respondent: “*Very many who come, they see very little, they see small points of climate and environment issues, they don’t see the whole picture.*”

Some respondents reported a *division* between groups that *preferred different solutions*. The two reported stances were perspectives where technological solutions are preferred, and perspectives where it is believed that lifestyle changes are necessary. This division was

reported as a cause for uncertainty and a hindering factor towards united engagement. One respondent emphasized the exclusiveness of this debate:

“There’s an ongoing debate all the time - one would hope that there was a broader unity around this whole thing where we could include everyone (...) One part talks a lot about technology, clean technology (...) and then there’s the other part which is terribly critical to consumption, saying (...) we should change lifestyle completely”

A few respondents reported perspectives that perceive climate change *solutions as unfair*, that they affect certain social groups an unfair amount. One respondent indicated this theme of perspectives to be most commonly occurring. Some respondents also reported that these perspectives led to irritation and resistance, and one respondent reported anger:

“All of those who need the car are angry, they think that this is deeply unfair. Rural people, farmers who live outside of town (...) Most see that the climate threat is serious, but at the same time there’s a lot of criticism against increasing gas prices (...) and targeting certain groups.”

#### 4.1.3 *Reasons to engage*

When asked specifically about underlying reasons to whether individuals engage in climate change issues, respondents reported a few different perspectives. Identified themes in these perspectives could be divided into two sub-categories; *pre-existing values* and *new input*.

In a few interviews, pre-existing values were reported as one underlying reason to engage. Some of these values were reported as connected to morals and humanism, as indicated by this respondent:

“I think that most do it for humanistic reasons, consideration for family, children, friends. Next step is caring for nature and the Earth (...)”

Other respondents connected values of egocentrism to reduced climate engagement. One respondent exemplified this with dying of old age soon: “*Once or twice I have heard things such as ‘We are soon gone anyway, so why does it matter?’*”

In other cases, the pre-existing values that are reported are connected to current or preferred lifestyles that either contribute to a will to engage for the climate, or obstruct it. One respondent reported both of these properties:

“There are those who might be engaged because they have chosen an alternative lifestyle for other reasons (...) A counter motive could be that one has own interests that goes against this, that one feels are threatened...”

Some reported perspectives are related to *new input*, as reactions to certain events, usually connected to the weather events of 2018. Reported reactions are all of fear, which can cause denial as one is unwilling to see the consequences and thereby unwilling to engage, as exemplified by this respondent: “*[Not engaging] might be some form of fear, if one denies something and close one’s eyes it doesn’t exist.*”

Some respondents reported fear as increasing engagement. One respondent mentioned recent events as an ‘eye opener’:

“The events of the last year has opened people’s eyes, it’s not about the future now, we are already experiencing it (...) A lot of people are surprised at how close this is (...) A fear that this will mean worse conditions for themselves.”

## 4.2 Behavioural production processes

There is a variety of reports about what behaviours were being discussed in relation to climate change. The actions could be divided into five sub-categories; Two containing individual actions - *Transports* and *changed food habits*, one containing actions on an industrial level, one containing *political actions*, and one containing actions related to *economy* (see Table 2). Even though a variety of actions were reported, some respondents still reported that individuals approach them asking for suggestions of low emission behaviour.

Table 2: Sub-categories and themes within Behavioral production processes

Sub-categories	Themes
Transports	Changing car fuel
	Not using a car
	Flying
	Train travel
Changed food habits	Changed food habits
Industrial actions	Materials
	Fossil-free energy
Political actions	Political actions
Economy actions	Financial incentives
	Climate compensation

### 4.2.1 Transports

When reporting commonly discussed actions to reduce GHG emissions, transports were mentioned in some form by every respondent. Four different themes of transport related actions were identified; *changing car fuel*, *not using a car*, *flying* and *train travel*.

The action of actively *changing car fuel* was reported in several interviews. One respondent mentioned this as one of the most frequently discussed actions. Some respondents referred to this action specifically as discussion around electric cars. This action has been connected to some level of confusion as to what is the best decision, and one respondent indicated different environmental factors as the cause of this: *“I hear a lot around alternative fuels (...) A lot of people are also confused, they talk about [different environmental factors] at once (...) People don’t really know what the different factors mean.”*

Some respondents offered personal engagement with issues relating to alternate fuels as a possible explanation to why this action seems to be discussed commonly, however the action was also reported by respondents that are not involved in these issues, indicating that professional bias is not the only reason that this discussion seems common.

Some respondents mentioned the action of *not using a car* entirely. Several respondents referred to car-related emissions in general to be one of the most commonly discussed actions. In some cases specific alternatives to using a car were mentioned, such as electric bicycles. Both individual and political actions were reported - one respondent provided a few examples of the latter:

“... because of the demonstrations against gasoline tax in France there has also been some discussion around that, car-free zones and such. There is always some discussion around that.”

The theme of discussing flying in relation to climate change is one of the themes that is reported by a broad majority of respondents. In addition, a few respondents mentioned flying specifically as one the most commonly discussed actions. The theme contains political discussion, e.g. about a flying tax, and one respondent was clear about this action

being commonly discussed: *“Flying tax, definitely. (...) There has been a lot of discussion about that, it popped up a lot on the streets.”*

Another concept that was reported by several respondents was the individual choice of whether or not to fly. One respondent connected this specifically to a new Swedish word, flygskam, which roughly translates to flying shame: *“There is a new word (...) ‘flying shame’, and one behavior I have noticed (...) is that people are less inclined to brag about their vacations [by plane].”*

*Travelling by train*, sometimes referred to specifically as an alternative to flying or taking the car, was reported by a majority of respondents to be a common action to discuss. One respondent mentioned train travel specifically as the most commonly discussed action. A few respondents mentioned industrial actions related to train travel, while others mentioned the individual choice of travelling by train. One respondent emphasized the simplicity of train travel as a reason to why it is so widely discussed: *“Train travel is most discussed, I think. (...) It’s so simple, it’s easy to spread how to do it.”*

#### 4.2.2 Changed food habits

A change in food habits was the only non-transport related theme that had a broad representation in the material. A few respondents report this as one of the most commonly discussed actions. One respondent specifically reported an increase in discussion around changed food diets: *“Around food and climate, I can see that things have happened the last 2-3 years. People are ready to change their diet. (...) There is a lot of talk about that.”*

#### 4.2.3 Industrial actions

Actions that affect the way an industry works were reported by a few respondents from different ideological backgrounds. Two themes could be connected to this sub-category; *materials* and *fossil-free energy*.

Discussions regarding the production and use of certain *materials* were reported by a few respondents. Three actions were mentioned specifically in relation to this theme; Reducing the use of plastics, recycling or reusing materials, and choosing environmentally friendly building materials, two of which are exemplified by this respondent: *“There are thousands of questions, should one build a house in wood or in concrete (...) Should one recycle plastic material or recycle the energy...”*

A few respondents reported a transition to *fossil-free energy* as one action that was discussed. Two specific concepts were reported; solar cells and nuclear energy. Installing solar cells were reported both as individual and industrial action, while expanding on nuclear energy was described as political action. One respondent reported solar cells to be a debate without controversy: *“Solar cells, there’s a bit of discussion about, but there’s no controversy, not many are against solar cells, the question is about how much one is for it, how much one wants to put into it.”*

#### 4.2.4 Political actions

Politically oriented actions were reported by a few respondents. One respondent reported international cooperation to be the most commonly discussed action. According to one respondent, these discussions have resulted in increased activity:

*“There has been an increased activity when it comes to demonstrations, different types of actions, targeted at specific actors (...) We have seen these Friday strikes, where there were a lot of people, extinction rebellion has started who try to do targeted actions”*

#### 4.2.5 Economy actions

A few respondents mentioned actions connected to the economy that span over the individual, industrial and political plane, warranting a separate sub-category. Two themes were identified; *financial incentives* and *climate compensation*.

A few respondents reported actions being discussed that either reflect current *financial incentives* (buying environmentally certified wares), or try to change them (green taxes). One respondent recited discussions that they had heard about environmentally friendly food: “*I can’t afford to buy environmentally certified, locally produced food’ (...) those with a lot of money say that ‘I can buy this and then I can contribute’*”

*Climate compensation* was also reported by a few respondents, as a way to use money to directly reduce GHG emissions. It was mostly mentioned briefly, as exemplified by this respondent: “*A concrete question is about what it is that binds carbon, (...) that is being talked about.*”

### 4.3 Motivational processes

When asked about arguments that motivate or discourage climate responsibility, many arguments were presented. Most reported arguments could be directly related to a motivational factor as presented in Bandura (2001) - *self efficacy*, *outcome expectations* or *personal sanctions*. Other sub-categories include *direct experience* and *other motivators* (see Table 3).

Table 3: Sub-categories and themes within Motivational processes

Sub-categories	Themes
Self-efficacy	Self-efficacy
Outcome expectations	Negative
	Positive
	Uncertain
Personal sanctions	Personal sanctions
Direct experience	Negative
	Positive
Other motivators	Information
	Base values

#### 4.3.1 Self-efficacy

Different arguments related to self-efficacy were reported by several respondents. In many cases self-efficacy is perceived as low, related to not knowing the benefit of specific changes. A few respondents reported this to be the most common discouraging factor. One respondent reported feelings of hopelessness due to this: “*One feels a powerlessness when others are destroying the environment*”. Another respondent explained it as a rational choice, where the impact of personal choice is seen as insignificant: “*There are those who think ‘That flight would have gone anyway.’ (...) What does it matter that I worry about the climate (...) the impact is marginal.*”

A few respondents highlighted the motivating effect of high perceived self-efficacy. According to one respondent, individuals can be motivated when they see that they can be a part of something: “*There are a lot on TV about animals that are threatened (...) I think that motivates more to want to do something (...) ‘Maybe I can be a part of saving the polar bears’*”

#### 4.3.2 Outcome expectations

Arguments related to outcome expectations were reported as present by a broad majority of respondents. The level of motivation or discouragement depends on the expected outcome, warranting three themes: *Negative, positive and uncertain*.

A significant majority of respondents reported *negative outcome expectations* to determine motivation. In many cases, negative outcome expectations reduced motivation. One respondent reported this theme to be the most common discouraging argument. The reported arguments are based in part in personal costs being too high in comparison to environmental benefit, as exemplified by one respondent reporting that climate engagement can be perceived as non-functional: *“They think that it’s not functional to [stop with high-emission behavior], I will not make these sacrifices (...) The amount of negative they get does not correlate with the positive effect on Earth”*

One respondent reported another perspective - the damage is already done and climate change will happen in the future no matter what is done now *“There are those who are more pessimistic and think that it’s already gone too far, it cannot be changed. (...) They don’t feel empowered to do anything, more like they have lost hope.”*

In a few interviews, negative outcome expectations were also reported to have a motivational effect, and in some cases it was reported as the most common motivational factor. In this case, the act of not adopting new behaviors were connected to worse expected outcomes. One respondent reported a connection between current life conditions and future changes to nature:

*“There is a lot of talk about natural disasters, that it is dangerous (...) If one likes to ski, one is scared that there will not be any snow.”*

A few respondents reported *positive outcome expectations* as a motivational factor when direct benefits of new behavior are easy to understand. One respondent reported positive reactions when someone acts to be more climate friendly, and theorized that this may lead to a further motivation to make changes themselves: *“It feels like, when someone does something they applaud (...) They are very happy that it is done (...) It feels like if you do something you get a lot of support”*

In some interviews, the *uncertainty* when one cannot form an outcome expectation is reported as a discouraging factor, and in one it is reported as the most common factor. In these cases, the energy needed to adopt a new behavior is not deemed worth it when the expected outcome is unclear. One respondent focused on how this leads to focusing on what is lost: *“There is some change required, which requires energy (...) One should ‘refrain from’ flying (...) usually not talk about travelling in another way”*. These perspectives are reported by others as leading to stress or dissatisfaction.

#### 4.3.3 Personal sanctions

By a significant majority of respondents, arguments were reported that are based in personal values or sentiments, which can be connected to the social cognitive concept of sanctions. A few respondents reported this to be a primary motivational factor. In many reported arguments behavior is sanctioned by solidarity with future generations or the environment, as exemplified by this respondent: *“One argument that comes up a lot among engaged people is the responsibility for future generations, that we have reached the limits of the planet, we cannot continue in this way.”*

Another reported personal motivator was the sentiment of doing one’s part to contribute to a common good. One respondent recited an argument that exemplified this: *“Very important that everyone takes their responsibility, every little thing counts, we all have to help out”*

A few respondents also reported a more discrete sanction, a feeling of what is the “right” or “wrong” behavior, without any specific argument as to why this feeling occurs. One respondent reported this as a bad feeling connected to cognitive dissonance: *“I think people feel something wrong in the body when they do something that they know is not entirely good (...) People who cannot take living with cognitive dissonance.”*

#### 4.3.4 Direct experience

Arguments related to direct experiences were reported as motivational factors by some respondents. The experiences could be remembered as *negative* or *positive*, necessitating two themes.

In the few interviews where *negative direct experience* was reported as a factor for motivation, it was unanimously reported as encouraging. The arguments reported were related to experiencing negative effects of climate change. One respondent mentioned the summer of 2018 as a negative experience:

“This summer there were a lot who thought that ‘I don’t want it to be this hot’, experienced that the weather has changed because of climate change (...) An uncomfortable climate to live in, and they want to affect that.”

*Positive* direct experiences can increase motivation by way of a positive feeling of pride. One respondent emphasized that this is the most common response: *“When people do something, they rarely express anything other than pride of having done it.”* Positive experiences can also decrease motivation due to a feeling of already having done a good thing. One respondent reported this in relation to Uppsala specifically: *“We don’t have to think more about this, because we’re already so good’.”*

#### 4.3.5 Other motivators

Some arguments mentioned in interviews could not be thematically related to the theoretical framework, but were reported frequently enough to be relevant. These arguments could be divided into two themes: *information* and *base values*.

A few respondents reported that motivation could be related to access to *information* about climate change engagement. This theme is divided into two perspectives, where one reports an increase in motivation due an understanding that there is a level of personal responsibility, and a personal value that engagement should relate to knowledge. One respondent related this to putting high demands on one’s own lifestyle: *“There are those who say that one should put very high demands on one’s own lifestyle. (...) They motivate it by saying that there should be a unity between what one thinks and what one does.”*

The second perspective includes arguments where the lack of information decreases motivation, and makes it hard to engage for the climate. One respondent relates this to the magnitude of climate change: *“It’s such a big issue, it’s hard to take in (...) If one can find more concrete things to do that will help people, not saving the entire world but rather doing small things locally...”*

Some respondents mentioned *base values* as important factors to determine level of engagement. These values were often tied to a scale of motivation, and related to ideas of individual freedom contra collectivism, as indicated by this respondent:

“It’s a little connected to how one looks at society contra individual, an argument against sharp climate action is often that they think that it reduces individual freedom (...) engaged people usually want to see stronger governmental control.”



## 4.4 Disengagement practices

A number of disengagement practices were reported in the material, from all three stages of moral consideration (see fig. 1). Three sub-categories were created based on the three stages (see Table 4).

Table 4: Sub-categories and themes within Disengagement practices

Sub-categories	Themes
Practice stage	Social justification
Practice/effect stage	Displacement of responsibility
	Diffusion of responsibility
Effect stage	Discrediting messengers
	Minimizing consequences
	Compensation

### 4.4.1 Practice stage

In the practice stage, one disengagement practice was reported during interviews as significant - social justification. The social benefits justifying high emission behavior can originate from a personal understanding of what is best for society, or from outside pressure to live a certain way. One respondent exemplified this by a matter of placing everyday life above engaging for the climate:

“I know that many people don’t have a lot of time (...) then it’s a question of values, do we have to live this life? (...) They have their everyday life, and don’t have time to think about [the climate], they put it aside.”

This social pressure was also reported in several interviews as a factor that could push people towards adopting new behaviors. In one case this was reported as the most common motivational factor - social justification that justifies low emission behaviors. One respondent exemplified this by reciting arguments that label Swedes as role models: “... *‘we are role models, even if Sweden has a very small climate footprint we can be role models for other countries if we act in a way that has a positive climate impact’.*”

Other respondents reported reverse conditions, where one’s social environment has an impact on one’s choices. One respondent referred to this as a social pressure to have opinions that are deemed appropriate by one’s social environment:

“... there is also a pretty strong pressure on people that one should think ‘right’, if one doesn’t one is doing something bad, some people who normally would not have acted choose to do a little and tell people that they think it’s important, because it’s what one ‘should’ think to be accepted.”

### 4.4.2 Practice/effect stage

In the transition stage between the moral considerations of practice and effect, two disengagement practices can be employed: *Displacement of responsibility* and *diffusion of responsibility*.

The practice of *displacing responsibility* was the single most reported disengagement practice in the material, and in one interview it was reported as the most common factor for decreasing motivation. Several recipients of this displaced responsibility were reported. Many reported other actors as the recipient of responsibility, in some cases specifically referred to as other countries such as China, as exemplified by this respondent:

“The big argument is ‘What does it help if I don’t drive if 0,6 billion Chinese people drive. If China builds 1 coal plant a week, while Sweden tries to phase out its vehicles by 2020 - anyone can wonder how this even helps?’”

In some interviews, the recipient was reported to be society itself and how it is structured. In this situation, the actors that operate on a societal level are deemed responsible for individual actions, as indicated by this respondent: *“Often they transfer the responsibility to someone else. ‘Don’t burden me with this, something is wrong with the system, the politicians should handle this.’”*

Finally, one respondent mentioned technology actors as the recipient for responsibility: *“We think that as long as we find technological solutions we will solve all the problems.”*

Responsibility of detrimental behavior can also be disengaged by *diffusion*, i.e. spreading it among a large number of people, minimizing personal responsibility. This was reported by one respondent: *“We’re like an execution platoon, we don’t know who makes the ‘killing blow’, but we are doing it, although in a much nicer way.”*

#### 4.4.3 Effect stage

On the effect stage, two disengagement practices from SCT literature were identified: *discrediting messengers* and *minimizing consequences*. A third disengagement practice was also identified that was not covered by the theoretical framework - *compensation*.

In a few interviews, climate change engagement is discouraged based on *discrediting messengers* who are encouraging it. The arguments are described as being ideological in nature, where messages that call for increased climate engagement are disregarded because the ideology of the messenger does not correspond with personal values. One respondent reported that this leads to irritation and, subsequently, defiance:

*“There are those who by principle don’t want to, they understand the reasoning, but disagree with the environmental movement on principle. They are irritated by the people (...) ‘Does not matter whether they are right, I will never do what they want’”*

Arguments that *minimize consequences* of climate change were mentioned in several interviews as factors justifying a lack of climate engagement. One respondent reported this to be the primary discouraging argument. In some cases, the idea of climate change as a problem is minimized altogether, as exemplified by this respondent: *“Those who are against active climate politics usually claim that climate change is natural (...) or that it’s not even a problem that the temperature rises 2-3 degrees.”*

In other cases, the consequences are minimized on a personal scale, where climate engagement is discouraged by the understanding that there will be no personal consequences, even if the problem as a whole is not minimized. One respondent referred to this as arguing climate change to be someone else’s problem: *“It’s someone else’s problem. It will not affect me here and now, it’s for later, someone else.”*

A few respondents reported arguments of *compensation* being used to disengage from the negative consequences of environmentally detrimental actions. In these cases, actions with a lesser benefit are being cognitively regarded as compensation for actions with large negative consequences. One respondent referred to recycling as a common compensating action: *“‘We recycle, so we do a lot for the climate’, people who think that is good, and it is good, but it’s just so little.”*

## 5 Discussion

### 5.1 Attentional + Retentional processes

Problem-focused perspectives being more dominant than solution-focused perspectives is one potential explanation to a low level of climate engagement, as focusing on a problem without modelling solutions has been shown to leave individuals feeling out of control, reduce their feeling of hope and make them less likely to engage (Ojala, 2015).

In addition, in the group where symbolic models of climate change contain a solution focus there are aspects of these models that hinder engagement. A part of this group does not agree with solutions on the basis that they treat certain social groups unfairly. Focus on specific solutions and a disregard for other solutions can cause polarized divisions, which is a hindering factor towards united engagement. These factors mean that only a non-dominant subsection of the population has created an optimal symbolic model for meaningful climate change engagement.

Regarding underlying reasons for engagement, this study shows that if engaging for the climate is understood as correlating with existing values and morals, the will to engage increases. Meanwhile, if climate engagement is understood as incompatible with existing values, or the lack of personal consequences is put into focus, the will to engage is decreased. Meanwhile, a focus on recent events can have both a motivating and a discouraging effect on engagement.

### 5.2 Behavioral production processes

According to the material, the most commonly discussed actions are actions related to transports and actions related to changed food habits. The common theme that connects these two categories is that they are both centered around individual action, while the other categories contain actions that are made on a societal or political level. This reflects the statement made by many of the interviewees, that the discussion has mainly been focused around individual actions and behaviors.

A focus on individual actions is in line with how behavioral production works according to SCT (Bandura, 2001). In order to adopt new behaviors, experiences from other sources are observed and cognitively evaluated in order to be applied to one's own life. However, as SCT stresses the importance of sub-skills over exact behaviors to be copied, it is also important that background knowledges of *why* these actions are recommended are modelled. In the material, there are signs of missing background knowledges, as there are reports of some confusion in regards to what actions are effective, in some cases due to directly conflicting information e.g. regarding meat production. This confusion is also exemplified by respondents reporting that individuals asked for examples of actions that can be taken to reduce emissions, showing an inability to produce appropriate behaviors.

The material also shows that individuals in general do not talk as much about actions that affect GHG emissions not directly connected to their own lifestyle. Centralizing the discourse around actions that affect individual emissions rather than a larger scale runs the risk of creating feelings of personal guilt, which has been shown ineffective at promoting engagement, and may even have an opposite effect (Wolf & Moser, 2011; Markowitz & Shariff, 2012). A perspective where actions are connected to emissions on a larger scale than the individual makes engagement seem more meaningful and, by extension, more attractive.

### 5.3 Motivational processes

Some elements of motivational processes are more common as discouraging factors while others are more common as motivating factors, showing that certain types of messages have been more effective than others when trying to increase motivation to engage for climate change.

Regarding discouraging factors, two core concepts of SCT present themselves: Negative or uncertain outcome expectations, and low self-efficacy. These results mirror those of Thøgersen & Gronhoj (2010), who found the same motivational processes as crucial when adopting energy-saving behaviors.

With outcome expectations, this means that there is a common understanding that adopting more climate friendly behaviors will result in worse life conditions for oneself, or in life conditions that are unknown and therefore unattractive. This common understanding is connected to the problem-focused view of climate change that has been shown to be most common - when only a problem is perceived and connected to behaviors that are seen as convenient, individuals are cognitively resistant to making changes that would remove those behaviors from their life (Stoll-Kleemann et al., 2001). However, when the path to adopting new behaviors is clear and manageable, the motivational effect is much larger. This is exemplified by respondents reporting that outcome expectations or direct experience that are positive and related to new behaviors can have a motivating effect towards climate engagement.

While not as broadly represented in the material as outcome expectations, low self-efficacy was reported as relatively common. A perception of low self-efficacy can be a result of focusing on individual emissions, without connecting them to larger sources of emissions, such as businesses, societies or social groups (Gifford, 2011; Wolf & Moser, 2011). As shown in the previous section, behavioral production related to climate change is focused on actions that affect emissions on an individual level, without understanding its impact on larger emission sources. This perceived inability to affect larger sources of emissions can cause the feelings of hopelessness or ineptitude that exemplify low self-efficacy in the material.

The material also presents a primary factor for increasing motivation, however. Personal sanctions based on morals and belonging to a larger group of people that take responsibility were reported as the most common motivator. Personal sanctions are largely determined by internalized standards that do not change easily or quickly but can be selectively activated or disengaged from (see section 5.4). Sanctions can, however, also be affected by perceptions of social standards, which can be mediated and modified by mass communication and social contexts (Bandura, 2001).

Something should be said in regards to other motivators as well, even if they are not reported as most common. Direct experiences have a similar effect on outcome expectations as modelled information received from others, and information from both sources are processed in the same way (Bandura, 2001). This means that singular experiences that are experienced directly have a similar motivational effect as experiences of people in a similar situation. Negative experiences of current conditions affect outcome expectations in such a way that the current state of affairs are seen as worse, meaning that the perceived changes seem more attractive when evaluating costs and benefits. Similarly, positive experiences can have the opposite effect on outcome expectations.

Whether or not information is important for engagement is a controversial topic - According to an American study, access to information has a weak correlation to tolerance for climate change policies (Dietz et al., 2007), while a synthesis of psychological studies (Gifford, 2011) show that information does play a part in enabling or preventing climate engagement. This study supports Gifford (2011) in that information has an effect on motivation for at least a part of the population. It also supports a separate finding by Dietz

et al (2007), that more altruistic values increases motivation to engage for climate change. Due to the method of data collection in the present study, it is possible that the results regarding indirect motivators such as these are based on assumptions from the respondents, as these may not come up directly in conversations.

## 5.4 Disengagement practices

The first stage of disengagement practices is theoretically the most powerful (Bandura, 2007), in which social justification was reported in this study. The nature of social justification as disengagement is reported to be related to concepts such as social pressure and a will to fit in. The difference between wanting to fit in by participating in high emission behavior or feeling a social pressure to reduce one's emissions is likely connected to what values are strong in one's social environment, which is indicated by the different reports regarding whether social justification motivates or discourages low emission behavior. There are also reported arguments of being a role model for others, which could be seen as an example of moral justification, meaning that even if high emission behaviors are promoted by the social environment, the personal will to refrain from them is high enough that the individual is willing to take a stance to change the social environment (Bandura, 2001).

The most commonly reported disengagement practice has been displacing responsibility towards actors that one cannot affect directly. In that way, high emission behaviors can continue without any personal feelings of guilt or responsibility, as it is someone else's responsibility to make the necessary changes. Commonly, responsibility is displaced towards politicians, technicians or international actors, tasking them with making changes that affect global emission rates without necessitating any changes for personal lifestyles. Given that private consumption accounts for such a large portion of GHG emissions in Sweden (Naturvårdsverket, 2018), placing the entire responsibility on national or international actors will not result in sufficient changes to combat climate change on a sustainable level. A lack of clear connections between personal action and emissions on larger scales as well as a lack of clear delineation of to what extents certain actions can reduce personal emissions are plausibly related to why displacing responsibility is a common barrier for climate engagement, as any sign of uncertainty is likely to lead individuals to lean in the favor of self-interest (Gifford, 2011).

Disengagement practices that are activated at the effect stage were not reported very commonly. This can be explained by the finding that most people have accepted the problem of climate change and the consequences that a modern lifestyle has on it, as discovered in the material on attentional and retentional processes. Disengagement practices that operate by reducing the perceived effect of an action are not as effective when the effect of the action is widely recognized. In the cases that it does happen, the disengagement is often related to comparing the effect of an action with other, more or less related, issues - either consequences are minimized so that it is inconsequential compared to another issue, or the messenger is discredited based on other properties than the message itself. This deprioritization of climate change issues has been connected to an inability to assess distant or future risks (Gifford, 2011), a factor that is especially relevant in Sweden where detrimental effects may be further away than many other areas of the world.

Disengagement through compensation could be connected to an inability to quantitatively connect actions with emissions, a phenomenon that is strengthened by the general confusion in regards to different actions and their emissions that was reported in the material on behavioral production processes.

The activation and deactivation of disengagement practices has been shown to be related to the validity it is given by one's surroundings, and the justifying effect can be enhanced by collective disengagement (Bandura, 2001; Bandura et al., 2002). These findings support that social discourses have an impact on personal engagement, as shown in other studies that focus on e.g. social media (Robelia et al., 2011).

## 5.5 Conclusion

According to the results of the current study, the most common perspectives on climate change among citizens of Uppsala discourage personal engagement. Two glaring examples of this are a focus on the problem of climate change rather than its solutions, and a focus on individual solutions to climate change rather than solutions that affect larger sources of emissions.

These perspectives could have been influenced by the frames of past climate communications – for example communications that focused on affirming climate change as a problem, and on how an individual can act to reduce their own climate footprint. To promote perspectives that encourage engagement, more solution-focused communications that emphasize a connection between personal engagement and large sources of GHG emissions would be more effective. It is also made clear that the encouraging or discouraging nature of one's social environment influences whether one's perspectives on climate change encourage or discourage engagement.

It is not certain that these findings apply to every target group, however they present an interesting starting point and a framework for understanding the connection between communicated messages, commonly understood perspectives and climate engagement. When designing future climate communications, the current study shows that the framing strongly affects motivation to engage and provides tools to understand what affects the process from information to engagement.

## 5.6 Implications for future research

The present study presents different perspectives and understandings that have been presented in a specific social environment, or in general discussions that are publicly available. The results are a contribution to the discussion regarding what understandings and perspectives have arisen as a reaction to previous climate change communication, and regarding what communication efforts will be most useful in the future to promote sustainable lifestyle changes and climate engagement. However, the results are qualitative and based on a new framework that has not been applied extensively in this way before. A welcome addition to the current research would therefore be a quantitative complement to this study, exploring to what extent the different understandings are present in society, and connecting different understandings to different demographics.

This study has shown social cognitive theory to be an effective tool to understand how different arguments and perspectives relate to an individual's willingness to adopt new behaviors. Further studies using this theoretical framework, using different methodologies of sampling and data collection, would provide useful data that can be used to inform further communication efforts. Studies made on diverse social groups and in relation to other situations, such as social media, would contribute to more holistic climate engagement research.

# References

- Bandura, A. (2001). Social Cognitive Theory of Mass Communication. *Media Psychology*, vol. 3 (3), ss. 265–299. DOI: [https://doi.org/10.1207/S1532785XMEP0303\\_03](https://doi.org/10.1207/S1532785XMEP0303_03).
- Bandura, A. (2005). The Evolution of Social Cognitive Theory. *Great Minds in Management*, ss. 9–35.
- Bandura, A. (2007). Impeding ecological sustainability through selective moral disengagement. *International Journal of Innovation and Sustainable Development*, vol. 2 (1), s. 8. DOI: <https://doi.org/10.1504/IJISD.2007.016056>.
- Bandura, A., Barbaranelli, C., Caprara, G.V. & Pastorelli, C. (2002). Selective moral disengagement in the exercise of moral agency. *Journal of Moral Education*, ss. 101–119.
- Bogner, A., Littig, B. & Menz, W. (2009). Introduction: Expert Interviews — An Introduction to a New Methodological Debate. I: Bogner, A., Littig, B., & Menz, W. (red) *Interviewing Experts*. London: Palgrave Macmillan UK, ss. 1–13.
- Bogner, A. & Menz, W. (2009). The Theory-Generating Expert Interview: Epistemological Interest, Forms of Knowledge, Interaction. I: Bogner, A., Littig, B., & Menz, W. (red) *Interviewing Experts*. London: Palgrave Macmillan UK, ss. 43–80.
- Booth, C. (2012). Bystanding and Climate Change. *Environmental Values*, vol. 21 (4), ss. 397–416. DOI: <https://doi.org/10.3197/096327112X13466893627987>.
- Dietz, T., Dan, A. & Shwom, R. (2007). Support for Climate Change Policy: Social Psychological and Social Structural Influences\*. *Rural Sociology*, vol. 72 (2), ss. 185–214. DOI: <https://doi.org/10.1526/003601107781170026>.
- Garrison, D.R. (2007). ONLINE COMMUNITY OF INQUIRY REVIEW: SOCIAL, COGNITIVE, AND TEACHING PRESENCE ISSUES. *Journal of Asynchronous Learning Networks*, vol. 11 (1), ss. 61–72.
- Gifford, R. (2011). The dragons of inaction: psychological barriers that limit climate change mitigation and adaptation. *American psychologist*, vol. 66 (4), s. 290.
- Gifford, R. & Comeau, L.A. (2011). Message framing influences perceived climate change competence, engagement, and behavioral intentions. *Global Environmental Change*, vol. 21 (4), ss. 1301–1307. DOI: <https://doi.org/10.1016/j.gloenvcha.2011.06.004>.
- Grabe, M.E., Yegiyani, N. & Kamhawi, R. (2008). Experimental Evidence of the Knowledge Gap: Message Arousal, Motivation, and Time Delay. *Human Communication Research*, vol. 34 (4), ss. 550–571. DOI: <https://doi.org/10.1111/j.1468-2958.2008.00332.x>.
- Holmberg, S. & Ekengren Oscarsson, H. (2018). SVT:s Vallokalsundersökning Riksdagsvalet 2018. SVT. Available from: [https://www.svt.se/omoss/media/filer\\_public/5c/17/5c17fc91-31c4-4e0a-a17f-b42318edf4a4/valuresultat\\_riksdagsval\\_pk\\_2018\\_vagda\\_0912.pdf](https://www.svt.se/omoss/media/filer_public/5c/17/5c17fc91-31c4-4e0a-a17f-b42318edf4a4/valuresultat_riksdagsval_pk_2018_vagda_0912.pdf). [Accessed 2019-01-03]
- King, M.W. How brain biases prevent climate action. (2019-03). Available from: <http://www.bbc.com/future/story/20190304-human-evolution-means-we-can-tackle-climate-change>. [Accessed 2019-03-15].
- Markowitz, E.M. & Shariff, A.F. (2012). Climate change and moral judgement. *Nature Climate Change*, vol. 2 (4), ss. 243–247. DOI: <https://doi.org/10.1038/nclimate1378>.
- Martin, J. (2004). Self-Regulated Learning, Social Cognitive Theory, and Agency. *Educational Psychologist*, vol. 39 (2), ss. 135–145. DOI: [https://doi.org/10.1207/s15326985ep3902\\_4](https://doi.org/10.1207/s15326985ep3902_4).
- McDonald, S. (2009). Applying the Literature on Media Effects, Public Opinion, and the Issue-Attention Cycle to Increase Public Understanding of Climate Change.
- Meuser, M. & Nagel, U. (2009). The Expert Interview and Changes in Knowledge Production. I: Bogner, A., Littig, B., & Menz, W. (red) *Interviewing Experts*. London: Palgrave Macmillan UK, ss. 17–42.
- Moser, S.C. (2010). Communicating climate change: history, challenges, process and future directions: *Communicating climate change*. Wiley Interdisciplinary Reviews: Climate Change, vol. 1 (1), ss. 31–53. DOI: <https://doi.org/10.1002/wcc.11>.
- Nerlich, B., Koteyko, N. & Brown, B. (2010). Theory and language of climate change communication. *Wiley Interdisciplinary Reviews: Climate Change*, vol. 1 (1), ss. 97–110. DOI: <https://doi.org/10.1002/wcc.2>.

- Noy, C. (2008). Sampling Knowledge: The Hermeneutics of Snowball Sampling in Qualitative Research. *International Journal of Social Research Methodology*, vol. 11 (4), ss. 327–344. DOI: <https://doi.org/10.1080/13645570701401305>.
- Ojala, M. (2015). Hope in the Face of Climate Change: Associations With Environmental Engagement and Student Perceptions of Teachers' Emotion Communication Style and Future Orientation. *The Journal of Environmental Education*, vol. 46 (3), ss. 133–148. DOI: <https://doi.org/10.1080/00958964.2015.1021662>.
- Robelia, B.A., Greenhow, C. & Burton, L. (2011). Environmental learning in online social networks: adopting environmentally responsible behaviors. *Environmental Education Research*, vol. 17 (4), ss. 553–575.
- Scannell, L. & Gifford, R. (2013). Personally Relevant Climate Change: The Role of Place Attachment and Local Versus Global Message Framing in Engagement. *Environment and Behavior*, vol. 45 (1), ss. 60–85. DOI: <https://doi.org/10.1177/0013916511421196>.
- Scheufele, D.A. & Tewksbury, D. (2007). Framing, agenda setting, and priming: The evolution of three media effects models. *Journal of Communication*, vol. 57 (1), ss. 9–20.
- Stoll-Kleemann, S., O'Riordan, T. & Jaeger, C.C. (2001). The psychology of denial concerning climate mitigation measures: evidence from Swiss focus groups. *Global Environmental Change-Human and Policy Dimensions*, vol. 11 (2), ss. 107–117.
- Sutton, J., Gibson, C.B., Spiro, E.S., League, C., Fitzhugh, S.M. & Butts, C.T. (2015). What it Takes to Get Passed On: Message Content, Style, and Structure as Predictors of Retransmission in the Boston Marathon Bombing Response. (Danforth, C. M., red) *PLOS ONE*, vol. 10 (8), s. e0134452. DOI: <https://doi.org/10.1371/journal.pone.0134452>.
- Thøgersen, J. & Gronhoj, A. (2010). Electricity saving in households-A social cognitive approach. *Energy Policy*, vol. 38 (12), ss. 7732–7743.
- Weaver, D.H. (2007). Thoughts on Agenda Setting, Framing, and Priming. *Journal of Communication*, vol. 57 (1), ss. 142–147. DOI: <https://doi.org/10.1111/j.1460-2466.2006.00333.x>.
- Wolf, J. & Moser, S.C. (2011). Individual understandings, perceptions, and engagement with climate change: insights from in-depth studies across the world: Individual understandings, perceptions, and engagement with climate change. *Wiley Interdisciplinary Reviews: Climate Change*, vol. 2 (4), ss. 547–569. DOI: <https://doi.org/10.1002/wcc.120>.
- Zimmerman, B.J. (1989). A social cognitive view of self-regulated academic learning. *Journal of Educational Psychology*, vol. 81 (3), ss. 329–339. DOI: <https://doi.org/10.1037/0022-0663.81.3.329>.



# Appendix A: Interview Guide

## *Warm-Up/Recording of personal opinions & bias<sup>2</sup>*

- Introduce yourself, how do you work with climate change issues? Personally, politically, professionally?
- What is your professional/political role?
- Impressions about the climate:
- What is your impression of how important climate engagement is? With whom should this engagement start?
- Do you live as you learn? Do you think it is important to do so?
- What role do you think media has when it comes to climate change engagement? What kind of role?

## *Attentional/Retentional Processes<sup>3</sup>*

- Would you say that many have talked about the climate since the summer of 2018?
- Would you say you have gotten a good idea of different opinions regarding climate change?
- What different opinions have you noticed?
- Is any opinion more dominant/more common than others?
- Has anyone talked about why they are engaged for the climate? If so, what have they said? Dominant? Has anyone talked about why they are NOT engaged for the climate? Dominant?

## *Production Processes<sup>4</sup>*

- What concrete climate actions have people been talking about? Was any action more dominant/more common?
- Have people asked you about what climate actions can be taken?

## *Motivational Processes/Disengagement Practices<sup>5</sup>*

- What different arguments have you noticed about people's own responsibility regarding climate change? For/Against? Dominant? Why do you think they see it that way?

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<sup>2</sup> This first section allows some collection of personal opinions and bias, as well as allowing the respondent to vent their personal opinions before having to disregard them for the rest of the interview.

<sup>3</sup> General understandings of climate change are queried with the intention of collecting data on general information models that have been paid attention to and remembered by the population.

<sup>4</sup> By answering what concrete actions are discussed in relation to climate change, data can be collected about what behaviors and actions are produced as connected to climate change in the symbolic models created by individuals.

<sup>5</sup> Reported arguments related to individual responsibility to engage for climate change give data both on motivational processes that are in play to motivate or discourage climate change engagement, but also on which disengagement practices are activated in cases where climate change engagement is not performed.

## Appendix B: Recommendations for policymakers and communicators

Below are some recommendations for future communication that can be derived from the present study. The results of the study, and thus also the recommendations, are not universal, and should only be seen as recommendations for how to change perspectives like those found in the study. Common perspectives of specific target groups should be researched before adapting communication to increase engagement.

These results show that many different perspectives cooperate to prevent climate engagement. One significant aspect is the view on climate change as a whole. While communication efforts have succeeded in making the occurrence of denial towards the effects of climate change in Sweden low, the significant majority of individuals are still caught up with seeing the problem of climate change without focusing on how to solve the problem, which discourages engagement. This problem focus can be seen as a result of past climate change communication being focused on affirming and explaining the problem. Future communication efforts should therefore put less focus on reaffirming the problems of climate change, and give more space for solutions.

The results regarding why individuals choose to engage can be used to inform effective framing of climate change communication to gain constructive attention, i.e. connecting it to existing social values and values of moralism.

In the behavioral production stage, the significant majority of individuals have made connections between individual actions, such as transport and diets, and climate change. However, their effects cannot be evaluated or monitored as the necessary sub-skills and tools for evaluating effects are missing. To combat this, future communications should focus on providing necessary background knowledge and sub-skills in order for individuals to personally evaluate their actions based on climate impact. The weak perceived correlation between individual engagement and societal change has been shown to reduce climate engagement, and communicating this connection could prove to have significant impact. These efforts could also increase motivation to adopt low-emission behaviors, as perceived self-efficacy is likely to increase.

In order to further increase motivation, new behaviors should be modelled in a way that provides clear outcome expectations, i.e. clear visions of what effects new behaviors would have on the current lifestyle. As unclear outcome expectations have proven to reduce engagement, this effort is likely to increase motivation, and the motivational effect is expected to be higher in cases where outcome expectations can be perceived as positive.

There are also some social norms that prevent climate engagement. Basic values and collective disengagement have a strong effect. For this reason, presenting messages in a way that does not conflict with common base values and that promote a moral justification for climate change is likely to increase the motivational effect. In order to combat collective disengagement, the socially mediated pathway of communication is likely more appropriate (Bandura, 2001). By creating social networks where the norm is to invalidate disengagement practices, (see section 5.4) the disengagement effect is reduced, while creating an environment where social justification may instead be used for motivation.

By communicating in this way, focusing on solutions, relevant sub-skills, connections between personal engagement and large-scale emissions, clear outcome expectations and adapting to or creating new social norms, climate change communication could transform from being a cause of “doom-and-gloom” and resistance to creating networks and understandings that provide ideal conditions for a lasting and sustainable adoption of low-emission lifestyles.