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Just one more flight:
An archetype analysis of climate concerns of traveling by plane before and after the Covid-19 pandemic

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International Environmental Studies

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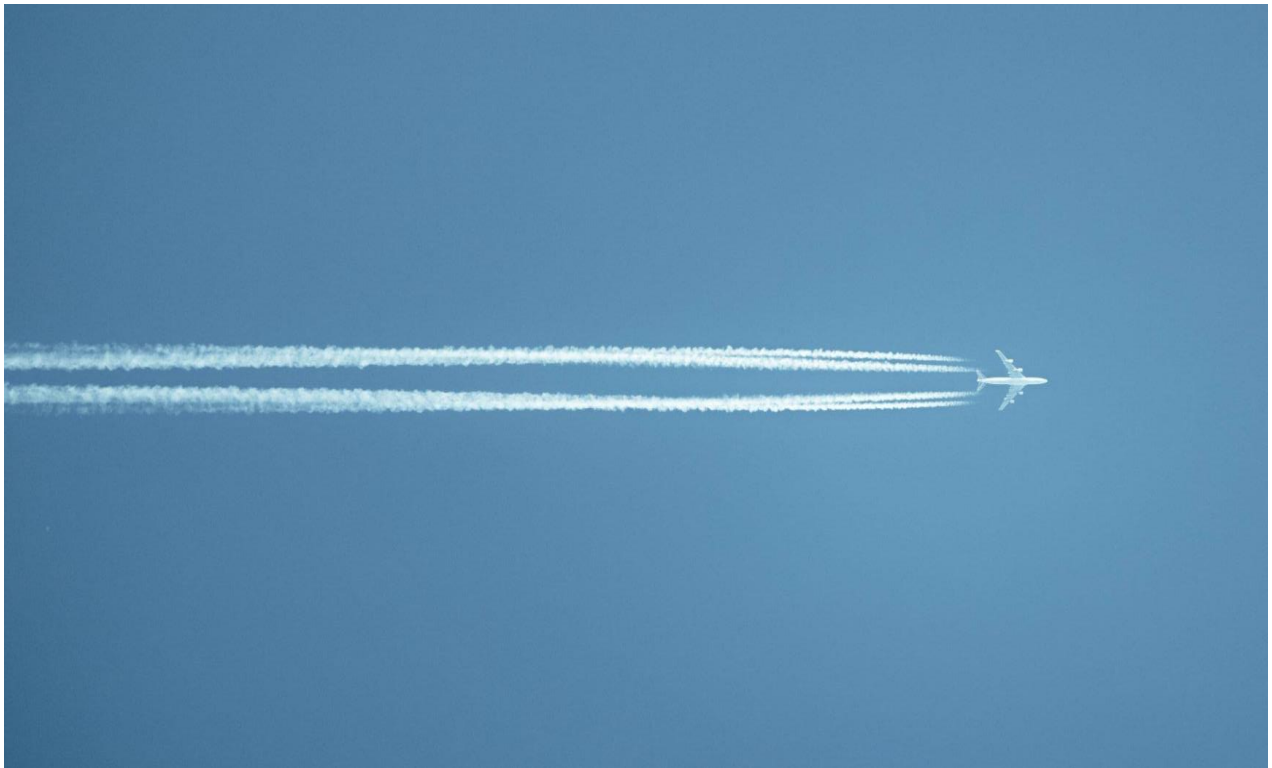
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Declaration

We, Katrine Haga and Marie Westerby, declare that this thesis is a result of our research and findings. Sources of information other than our own have been cited and a reference list has been appended. This work has not previously been submitted to any other university for the award of any type of academic degree.

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Abstract

Individual efforts to reduce emissions of greenhouse gasses could have a significant impact on climate change if enough people choose to act together. When it comes to traveling however, people seem to find excuses to travel by plane disregarding their concern for the climate. This thesis aims to understand the underlying principles of Norwegians' climate concerns when traveling by plane, and if the Covid-19 pandemic is a catalyst for changing these concerns. A mixed-methods approach involving in-depth interviews including a quantitative assessment of core values of 22 Norwegians, is used to explore the following two research questions: *In what way do individual climate concerns of flight travel vary based on the perceived role they inhabit?* and *Has the Covid-19 pandemic impacted individuals' motivations and climate concerns of traveling by plane?*

Three main purposes of travel were identified as leisure, visits, and business, all of which encompass different roles. Roles exist in social settings with expectations and responsibilities connected to them. When not fulfilling these requirements, sanctions are used to steer behavior. Acting according to social norms may contradict individuals' own values and create a gap between their attitudes and behavior. In order to examine the function of roles' impact on climate concern when traveling, an archetype analysis was conducted following the interviews based on their level of climate concern and actual behavior. Participants were categorized into five groups: the Climate Activist, the Optimist, the Average Joe, the Free rider, and the Climate Denier. The groups differed when arguing which purpose is justifiable for flying, and the requirements attached to roles were found as a frequent excuse. The Climate Activists found all non-essential travel to be illegitimate reasons to travel by plane. The Optimists were more open to travel for leisure, however, aspired to travel in more climate-friendly ways. On the other hand, the Average Joes were more willing to sacrifice work-related trips and valued leisure as a necessity. Furthermore, the Free riders did not feel the need to give excuses for their trips and would rather compensate for the climate in other ways. Lastly, the Climate Deniers did not express any climate concerns regardless of the purpose of the trip. These trends aligned with the quantitative results from the values questionnaire from the ACT project.

Using the pandemic as a catalyst for institutional change, in the form of norm emergence, could indicate a potential for lasting change in climate concern. There has been a significant change in travel patterns, both with more domestic destinations for leisure and in the business sector where new habits and norms have already emerged. Nevertheless, leisure travel and visitations are predicted to rebound when the pandemic is over. Thus, the positive climate impact of reduced flights was an unintentional advantage of the pandemic, rather than caused by increased awareness of climate change.

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1. Introduction

Traveling by plane has become a standard when traveling internationally to the vastly globalized world we live in. The speed and affordability of flights has made travel much more accessible but has also led to countless environmental burdens from flight emissions and a wide range of social costs (Zwanka & Buff, 2021). The availability and reach of flight connections have made airplanes an essential mode of transport for many, and often alternative options are not even considered. This, however, is becoming problematic due to the vast amounts of emissions from flights contributing to global warming and accelerating climate change (Randles & Mander, 2009). As such, a shift in awareness of the climate impacts of flights, as well as of more climate-friendly options, is needed.

Flying is seen to be an enjoyable activity among the upper-middle and higher income classes, despite reflecting on the climate impacts. In a study by Randles and Mander (2009) only a few individuals showed a willingness to pay an emission or flying tax, to offset their carbon footprint. This demonstrates the general mindset of travelers but does not directly conclude what makes them think in this way.

In 2017 Avinor registered 10 million international flights in and out of Norway, all of which were categorized as leisure travel, a number four times higher than work-related travel (Farstad et al., 2018). As of 2019, the main mode of international travel out of Norway is by plane. A study by the Norwegian Bureau of Statistics (SSB) showed that 70% of all international travel from Norway is by flight (SSB, 2019). Of these, 61% were leisure travel lasting over one week, 20% were business trips and 19% were leisure trips shorter than one week. As such people seem to travel more for leisure than for business in 2019. It is therefore interesting to consider if individuals have varying climate concerns based on the different purposes of their trips. Hence, this study will focus on Norwegians' climate concerns connected to flight travel and how this might differ depending on the perceived role the individual inhabits during different categories of travel.

In this study, we define climate concerns as the personal norms and social pressures focused on reducing climate impacts. The perceived role is a subjective element identifying a person's perspective of their current role, which will later be explained in Chapter 3.2. The study will also include aspects from social psychology by examining role theory and institutional theory to explore the reasons behind varied climate concerns and their motivations to act in a climate-

friendly way. Concurrent with the global crisis of climate change is the global Covid-19 pandemic. Reduction in energy-intensive and climate-harmful activities such as flights has been pointed as a solution to mitigate climate change. Additionally, one of the main solutions suggested for reducing the spread of the Covid-19 pandemic has been to travel less across borders. The difference, however, is that only the latter of these crises has brought about substantial changes to people's traveling patterns, which has resulted in a 43% reduction in global flight travel (Bielecki et al., 2021). We will explore if the ongoing pandemic can be examined as a major event that causes a shift in climate concerns of flight travels. This hypothesis allows us to address the complex issue of roles impacting climate concerns of traveling. The different approaches to these crises make it interesting to examine the following research questions:

1) **In what way do individuals' climate concerns of flight travel vary based on the perceived role they inhabit?**
2) **Has the Covid-19 pandemic impacted individuals' motivations and climate concerns of traveling by plane?**

2. Background

The following chapter presents relevant background information highlighting the environmental impact of flights, why climate concerns of flight travel are important, the role of the pandemic in raising awareness of climate change and changing behaviors.

2.1 Environmental impact of flights

The main emissions from flights include carbon dioxide (CO_2), nitrogen oxides (NO_X), as well as water vapor, all of which are greenhouse gasses and contribute to global warming (Jardine, 2009). A tool used to compare emissions between driving and flying from Oslo to Stockholm reveals that flying (including transport to and from the airport) produces over double the amount of CO_2, NO_X, and non-methane hydrocarbons (EcoPassenger, 2021). When compared with emissions from a train ride on the same distance, it is altogether 46 times more CO_2. Furthermore, the emissions are expelled at a higher level in the atmosphere which lengthens the life cycle of each gas, as well as contributing more to the ozone layer and the greenhouse effect (Jardine, 2009). These differences emphasize the immense need for reduced emissions from flights in order to slow global warming.

Several airline companies have introduced climate compensation as a measure to allow customers to compensate for the emissions connected to their flights (Fjeld, 2019). Hence, when booking a plane ticket, the customer has the possibility to pay an extra cost based on the market price for emitting CO_2 which, according to Fjeld (2019), was at around 95NOK per ton of CO_2. Different international projects and organizations receive the compensation and use the money for reductive measures to mitigate climate change (Ibid). Whether this enables the mitigation of climate change remains to be discussed. However, there have been claims that climate compensation only serves as a cheap embellishment that eases people's consciousness, and that the ability to compensate for our flights will not result in reduced emissions (Ibid).

A study of Norwegians' travel habits in 2018, found that their main objective for flight travel is to visit- or be with friends and family. The desire to explore new places, relax, have a break from everyday life, and experience warmer climatic conditions are the second most frequent reason (Farstad et al., 2018). Thus, for this study, we have established three preliminary categories of travel: leisure, visitations, and work-related travel, and examine the roles associated with each one.

2.2 Climate concerns

The introduction of climate compensation schemes emphasizes the growing awareness and concern for the climate. The expanding research on climate change and global warming has led to increased efforts to influence climate governance. Psychological, cultural, and physical disconnect from nature is growing, as over half of the human population now live in cities (Meis-Harris & Kashima, 2020).

In 2018, the world saw younger generations engaged in collective protests against climate change. *Fridays For the Future*, the school strike for climate change commenced by Swedish Greta Thunberg, represents one of the movements which gained a lot of attention in the global media (Gössling et al., 2020). The movement seeks to put moral pressure on policymakers in order to take immediate action to limit global warming. Thunberg has, since the start of her school strikes in 2018, engaged in actions to spread information about the hazardous impact humans have on the planet. For example, choosing to sail across the Atlantic Ocean to attend the COP25 meeting in Chile, instead of flying. By doing so, she raised awareness of the individual responsibilities we have as part of our climate footprint, as well as the incredible environmental impact the aviation industry has (Sengupta, 2019).

This movement contributed to changing the climate change narrative to be an issue of personal responsibility (Gössling et al., 2020). As aforementioned, climate concerns refer to the beliefs and values individuals have in connection to their climate footprint. As the climate change debate gained a more personalized focus, people have become increasingly aware of the climate impact connected to their traveling decisions, especially flights which represent a substantial source of pollution. Additionally, as a result of the growing climate awareness and climate concerns connected to flight travel, the movement of "flight shame" emerged in 2018 (Korkea-aho, 2019). Flight shame encompasses the feeling of guilt individuals could feel, as a result of performing activities that have climate-harmful implications. These activities are also viewed as socially undesirable due to their devastating consequences on the climate. Hence, a growing body of movements making climate change a personal concern is increasingly influencing social norms.

Even though climate change is becoming more of a personal concern there is still an obvious gap between actions and attitudes amongst individuals. In a study involving 1200 Norwegians more than half admitted that the negative climate impact of flight travel had little impact on their decisions to travel abroad by plane (Farstad et al., 2018). Additionally, 40% of the

same population considered activities such as paying climate compensation to have little effect in reducing the negative climate impact connected to flight travel (ibid).

2.3 Research on climate awareness as a result of the Covid-19 pandemic

As a result of the global shut down of the transport and production sector following the outbreak of the Covid-19 pandemic, the impact on reduced total emissions became prominent. This sudden halt began a new field of research into what policymakers could learn from the responses to the pandemic compared with responses to climate change (Botzen et al., 2021; Lyytimaki et al., 2020; Fuentes et al, 2020). With pictures being spread on social media of clear skies where the air quality is usually the worst in the world (such as in New Delhi and Bangkok (Ellis-Petersen et al., 2020; Stoddart et al., 2021)), awareness of the drastic impacts that human actions have on the environment became crystal clear. Nevertheless, the hype was fairly short-lived (Lyytimäki et al., 2020). In the media especially, the turnover of headlines is constant, and as such, the coverage of the link between the pandemic and climate change did not last long. On the other hand, a whole new field of research emerged for both policy advisors and climate- and environment researchers to be able to see the true impact of human activities (Botzen et al., 2021; Fuentes et al., 2020).

Sherman (2020) examined the concept of "flattening the curve" in the pandemic, relating to reducing the infection rate, and emphasizes that a similar approach relates to flattening the curve of the climate crisis. Reducing the rate of climate change is also crucial before the damage becomes completely irreversible. While Sherman has a point in the structural comparison between the two, Hochachka (2020) elaborates on the key psychological distances between the two approaches, explaining why adapting to the pandemic changes has been 'easier' than the changes asked for in the climate crisis. The pandemic is observed as something concrete and short-term, something the human brain is able to comprehend and adjust to. The climate crisis, on the other hand, is comparatively abstract and on a much larger time frame than is easily pictured, often beyond one's own lifetime (ibid). However, Botzen et al. (2020) suggest that the pandemic could be a 'rapid learning experiment' which demonstrates how societies are capable of changing lifestyles in order to mitigate the externalities of the pandemic, albeit delayed.

2.4 Changing travel habits after Covid-19

Since the pandemic started, people have been forced to change their travel patterns, and flights were reduced by 43% between 2019 and 2021 as a result of restrictions, lockdowns, and other measures implemented to limit the spread of the pandemic (Bielecki et al., 2021). The media coverage concerning climate change has pointed to the benefits resulting from reduced tourism during the pandemic. These included pictures of the natural environment recovering because of reduced emissions and pollution (Stoddart et al., 2021). However, even though the pandemic has caused a dip in transport-related emissions, especially connected to flights, some argue that they are expected to rise back to normal rates when restrictions are lifted (Oswald & Ernst, 2020). Additionally, some fear there will be a reduction in policy efforts aimed at mitigating emissions from the aviation sector in order to restore the financial damages caused by the pandemic (ibid). A study by de Haas et al. (2020) examined the experiences of Covid-19 with the adopted government measures impact on preferences and individual behavior, in order to predict expected future travel behaviors. The study showed a significant reduction in flight frequencies for Dutch citizens after the pandemic. Similarly, Shamshiripour et al. (2020) found comparable expected reductions in flight frequencies in a study in Chicago, and further examined the reasons behind said reduction. They learned that the main reasons for the change were that they did not feel safe or comfortable with sharing space with others; anticipation of more long-distance journeys with cars; affordability issues due to unemployment during the pandemic; and a change of priorities of no longer wanting to travel in the same way.

The amount of business trips has seen a major dip during the pandemic. It is estimated that while leisure travel will rebound to pre-pandemic levels quickly, 20% of all business trips might not return (Lund et al., 2021), or will take considerably longer time to bounce back. Online meeting programs have increased the accessibility and practicality of virtual meetings (Kelleher, 2022).

Another example of a previous crisis that resulted in reduced greenhouse gas emissions globally is the financial crisis of 2008 and 2009. This was mostly due to reduced industrial activity and poor financial conditions restraining regular consumption and production (Henriques, 2020). However, the level of emissions quickly rebounded, leading to an all-time high when the economy recovered in 2010. Even though global emissions have seen a drop of 0,3% in 2020, there are hints that the same rebound effect will occur when the pandemic is over. Still, some of the behavioral changes caused by the pandemic may continue to exist, as times of change often lead to the

introduction of lasting habits (ibid). To such a degree, traveling less or in more climate-friendly ways may become the new norm going forward.

Thus, it is interesting to examine whether or not the Covid-19 pandemic has catalyzed a change towards Norwegians' climate concerns and travel decisions, and whether it has added a new dimension of responsibility connected to travel, going forward.

3. Theory

To adequately address the research questions, we will draw on institutional theory, and theories within social psychology, including role theory and self-determination theory. These will give an understanding of the underlying principles of human behavior. While the former is quite general, role theory is applicable to understand the changes in human climate concerns regarding the roles people occupy. The adapted ACT-framework (Figure 1) will provide a visual representation of the theories applied to this case and aid in clarifying how they are connected.

To understand climate-related behavior in connection to travel, it is important to consider that "behavior is a function of the organism and its environment" (Stern, 2000, p.415). Taking a starting point in establishing the context of human action and climate concern is dependent on two elements: Attitudinal variables and contextual factors (ibid). Attitudinal variables are implied as to the implicit values and beliefs and internalized norms to certain behaviors; whereas contextual factors are the explicit elements influencing behaviors such as financial incentives, physical availability, legal factors, and social norms (ibid).

3.1 Norms and norm activation

Institutional theory and social psychologists' perspectives can help better understand the construction of norms. Both perspectives give useful insights into predicting individual behavior and will help this study better understand the participants' travel behavior.

3.1.1 Institutional theory

Vatn (2015) explains how "institutions are human constructs and make relations between people and structure human interaction" (p. 77). Thus, to understand how these interactions influence human action, one must recognize the impact of each institution, and the role each plays in their potential to initiate change. According to the author, there are three forms of institutions: norms, conventions, and formally sanctioned rules. Norms are representative of a definition of how someone should behave in a situation, based on certain societal expectations. Conventions represent the combination of certain situations with a certain act, solution, or understanding, such as shaking hands when saying hello to someone. Lastly, formally sanctioned rules are governed

by a third-party sanctioning with different power structures. In this study, norms and the social processes of activating them will be in focus (ibid).

Institutionalists divide norms into two categories: non-internalized and internalized (ibid). When a norm is not internalized external regulations, such as sanctions, steer appropriate behavior in different social settings. Hence, an individual is sanctioned if they deviate from the image of what is the socially right or responsible way to behave (ibid). A norm is internalized when an individual acts independently of external sanctions. Institutional theory suggests that norms are constructed by cultures and expectations from society, and when internalized they become part of the individuals' identity.

Sanctioning or nudging certain social behaviors could for example unfold as shaming someone for traveling short distances by plane or frequently flying when it is not absolutely necessary. On the other hand, pro-environmental behaviors such as taking the train instead of flying could be rewarded by social praise. A clear example of the emergence of norms was seen during the pandemic, such as people keeping distance and wearing face masks in order to not be socially sanctioned. These norms also became part of society's expectation of an individuals' behavior during the pandemic.

3.1.2 Social psychologist perspectives

Contrastingly, social psychologists argue that norms are indeed social constructs but rather focus on the unconscious choices of the individual. The choices occur based on both personal factors and contextual factors: awareness of consequences, the ascription of responsibility and personal norms (Schwartz, 1977 in Biel & Thøgersen, 2007). These factors also determine which norm is activated, either social or personal norms (Schwartz, 1977).

Social norms are constructed by standards and rules within a group defining prescribed behavior. If members do not adhere to these expectations, their behavior is regulated by social punishment, also referred to as sanctions (Cialdini & Trost, 1998). The nature of these norms varies, and different types of norms may be activated in different situations. When a norm is becoming internalized, the sanctions are administered by the individual themselves in the form of guilt feelings or pride. Compared with the institutionalists, social psychologists argue that when a social norm is internalized, it becomes a personal norm (Biel & Thørgersen, 2007).

Personal norms reflect the individual thought of right and wrong and will determine a person's own actions based on their values and beliefs (Schwartz, 1977; Schwartz & Howard, 1982; Cialdini & Trost, 1998). As such, if a person believes flying is bad for the climate, they will have the free will to choose to fly or not. Such a norm relating to climate-friendly behaviors can either relate to moral obligations (also referred to as moral compass), or to personal identities (Schwartz, 1977; van der Werff et al., 2013; de Groot et al., 2021). Stern et al. (2005) reflects on the activation of personal norms and uses their Value-Belief-Norm theory to predict what influence certain values and beliefs will have on sustainable behaviors (Stern et al., 2005 in Lind et al., 2015).

Even though groups have a shared understanding of expectations of behavior, social dilemmas may occur. In this study, social dilemmas are defined as, "a situation that creates a conflict between the individual's interests and the collective's interests, such that the individual obtains better outcomes following strategies that over time will lead to suboptimal outcomes for the collective" (APA, 2022). In some situations, individuals apply defense strategies when the moral and non-moral costs and benefits connected to possible actions are relatively balanced. In these situations, the individual may experience what Schwartz (1982) and Howard (1984) refer to as a decisional conflict (Biel & Thøgersen, 2007). In social dilemmas, some tend to justify their uncooperativeness by denying being responsible for the outcome of the situation. Additionally, some try to convince themselves that their actions would not make any difference anyway (ibid). Thus, using defense strategies when in a moral conflict tends to reduce the experienced cognitive dissonance felt by the individual and provide justification for their deviating behavior.

3.2 Role theory

Role theory is a subfield within social psychology and institutional theory, and can be understood as a vehicle for integrating the three core social sciences of anthropology, sociology, and psychology (Biddle, 1986). Social scientists have used role theory to understand both the individual and the collective simultaneously. A common notion within role theory is how roles are associated with people's social position or status (Biddle, 1986). Although there have been countless attempts to define the 'phenomena of roles', sociologists dispute between the focus of individual behavior being independent of interactions with other individuals (The Lintonian

definitions by Lopata, 1965 in Blau et al., 1995); and its formation through complex interrelationships among several people (e.g. Znaniecki, 1965; Blau et al., 1995; Biddle, 1986).

Different roles become visible as individuals enter specific situations with their constructed expectations and responsibilities connected to them. As individuals, we inhabit many different roles in our lives. One can be a mother, handball coach, CEO, and sister all at the same time. The different roles represent different expectations and responsibilities which guide our behavior, through norms and sanctions, depending on the role we inhabit in specific situations. Additionally, personal norms influence individual behavior in each role. Even though you are a mother to your child, you cannot act solely as a mother when coaching your child's handball team. You enter a different role with a different set of expectations connected to it in order to fit the set activity you perform (Biddle, 1986; Merton, 1957 in Blau et al., 1995). Hence, due to expectations to conform to the duties of the role (Znaniecki, 1965) you follow the social norms present in the situation. Individuals often act based on automation and are not necessarily aware of the reasoning behind their situational behavior. Nevertheless, the underlying perceived expectations can be understood as social- and personal norms, values, thoughts, or feelings which have different implications for our behavior (Biddle, 1986) This, Znaniecki (1965) defines as moral standards that people are meant to be measured up against, and where actions are expected to be satisfactory to others. Moral standards are established by social norms within a culture (Znaniecki, 1965).

Furthermore, roles are not only meant to concretize which state we are in, they also serve as functions (duties and personal rights) within a social system (Znaniecki, 1965; Biddle, 1986), along with the interacting social networks, institutions, values, deviance, and orientations (Blau et al, 1995). The involvement of other people in a social system is key to understanding the creation of roles (Lopata, 1965). In the setting of climate concerns related to flying, roles could influence how much a person reflects on the impact of choosing to fly to their destination. For example, if one is part of a climate activist group, it could prompt more climate concern than someone who is an airplane engineer. The attached expectations of a certain role influence the individual's decision to act in a certain way. Flying abroad to visit your child is somewhat expected by the role of a parent. This may justify their decision to travel by plane to a larger degree than when the same person travels abroad for leisure. Additionally, the adherence to the expectations of a role depends on norms and identity as well as motivations.

3.2.1 Role conflict and the attitude-behavior-gap

The consistency between our attitudes towards climate-harmful activities like flight travel, and actual behavior is not always present and people often contradict themselves. This phenomenon has been studied and termed the attitude-behavior gap and focuses on how internal factors such as norms, values, beliefs, awareness and knowledge, and external factors influence the magnitude of the gap (Árnadóttir et al., 2021).

Flight behavior represents a prominent example of an attitude-behavior gap frequently detected by researchers. Despite having climate-friendly attitudes, many people justify their decisions of flying regardless of its substantial impact on the environment (ibid). When examining the gap found in flying behavior, elements of a person's identity such as norms, values, well-being, and social status are key factors that often determine the reasoning for their behavior. In several studies, it is observed that the inconsistency found between people's climate-friendly attitudes and their climate-harmful activities generates a cognitive dissonance, creating discomfort. However, in relation to air travel, people are more likely to change their cognition rather than their traveling behavior to bridge the gap and ease their discomfort (ibid). Hence, as a means to justify the attitude-behavior gap, several barriers have been identified: Lack of knowledge; absence of options; lack of feeling responsible to mitigate climate change; and the unwillingness to change travel habits (ibid). Nevertheless, the attitude-behavior gap of flight travel highlights how contradictory attitudes and behavior create role conflicts and social dilemmas.

A potential way to solve the conflict between being a climate-friendly person, who also travels by plane, is to compensate for your trip by purchasing climate compensation. As aforementioned, several airline companies have introduced such compensation schemes as a measure to reduce emissions connected to their flights. The concept allows you to pay for the amount of CO_2 emission connected to your specific flight (Fjeld, 2019). Hence, when booking a plane ticket, you have the possibility to pay extra to compensate for your own climate footprint. Whether this enables the mitigation of climate change or solely represents cost-shifting remains to be discussed. However, it might successfully bridge people's attitude-behavior gap and solve their inner conflict.

Research has detected several social trends influencing the gap between climate-friendly attitudes and travel behavior. One of them is the increasing pressure to gain international experience to enhance career options which have prompted the need for geographical mobility

amongst young adults (Oswald & Ernst, 2020). It is also suggested that all tourist experiences are in some way motivated by the need for self-realization ((at the top of Maslow's hierarchy of needs (Maslow, 1943)) and that being well-traveled is considered to be an indicator of social status. Additionally, Reese (2016) points to the desire many individuals feel towards identifying as a well-traveled global citizen as an explanation of the gap found between climate-friendly attitudes and their traveling behavior (Oswald & Ernst, 2020). Additionally, studies agree on the fact that requirements connected to competing identities, or as we refer to in this paper, roles, may cause the gap between attitude and behavior connected to flight travel (Hibbert et al. 2013; Reese, 2016). As an example of how competing identities cause a gap, they emphasize how long-haul flights to visit family often justify their decision to travel by plane, even though the activity poses a threat to an ecological-aware role (Oswald & Ernst, 2020).

3.2.2 Conflicting social norms and social dilemmas

Climate change mitigation efforts represent social dilemmas, as there are many groups with different interests involved. The encouragement of cooperativeness in social dilemmas is difficult, as it frequently represents a conflict between personal and collective interests (Kerr & Kaufman-Gilliland, 1997). Additionally, the effect or ultimate benefit stemming from cooperative behavior may take a long time to capture (ibid). In relation to peoples' travel habits, group success will depend on situational and social factors completely beyond their control. One person changing their travel habits alone will not be enough to mitigate climate change. There must be a collective effort and several people need to make cooperative decisions to enable the desired outcome. Nevertheless, the collective consists of many individuals. Hence, individuals need to make cooperative decisions in their own separate lives in order to mitigate climate change. However, there seems to be a common tendency to believe that doing things for the benefit of the group is unlikely to have much impact (ibid). The results of our individual actions are often not visible and may be undermined if the majority of the group is making decisions that are not cooperative. Hence, the motivation for acting in a cooperative way for the collective good may be limited.

The attitude-behavior gap detected amongst climate-friendly individuals and their travel habits represents an example of how defense strategies may be applied in a social dilemma. Traveling by plane across borders to visit a dear friend or a family member often justifies people's decisions to travel by plane (Oswald & Ernst, 2020). Hence, even though the individual is faced

with a social dilemma and feels morally obliged to act in a climate-friendly way, the moral obligation to be a good friend or family member seems to justify their decision.

When making a decision to travel by plane instead of choosing a more climate-friendly option, it may be because the personal outcome is better than the outcome connected to the cooperative choice (Kerr & Kaufman-Gilliland, 1997). If you only have a couple of days available to visit a friend abroad, traveling by plane will get you there fast and you will have more time to spend together. The cooperative choice in connection to travel may be to travel by train, which has a substantially lower climate impact than airplanes. However, taking the train is oftentimes more expensive and takes more time. The alternatives of destinations and routes may also be limited and inconvenient. Additionally, as the results of an individual choosing to take the train instead of flying are not directly visible, there could be very little extrinsic motivation to choose the cooperative option.

During the global Covid-19 pandemic, the effect of not flying has become more visible than before. The infection rate and the spread of the virus decreased when travel restrictions were implemented around the globe (Yin et al., 2021). This proved that using travel restrictions as a policy measure had a positive effect in terms of slowing down the spread of the virus. Hence, the motivation to follow the restrictions and avoid unnecessary flights may be strong in this case.

Additionally, Covid-19 poses a substantial threat to individuals' health, which makes the personal gain of not getting infected supposedly quite strong. Hence, in connection to the pandemic, the personal norm might not deviate from the collective interest when it comes to avoiding travel by plane. However, the rationalization behind the restrictions against traveling is not concerned with mitigating climate change but with hindering the spread of the virus. Either way, decreasing air traffic leads to less pollution which is good news for our planet.

Nevertheless, it is interesting to examine how different roles impact individuals' level of climate concerns connected to flight travel and how this impacts their decisions to travel by plane. Additionally, it is interesting to examine whether the pandemic has prompted a greater level of climate concern connected to travels amongst individuals.

3.3 Self-determination theory: intrinsic and extrinsic motivations

The self-determination theory (SDT) is relevant to apply in this study as we are interested in understanding how internal and external motivations influence individuals' climate concerns of

flight travel in different social settings. The theory provides a classification of different types of motivation and how they impact people's behavior. Although not directly concerned with the processes of changing institutions, it can provide insightful information on behavioral changes which instigates change when individuals engage in certain roles. Seen from the perspective of the SDT, the behavioral patterns of individuals are directly connected to the norms and values that society holds. However, what motivates their actions can be explained by many different factors and may lead to various experiences and consequences (Ryan & Deci, 2000).

SDT examines how motivation and personality traits create behavioral patterns and self-regulation amongst humans and attempts to systematically link the individual to their social context. People's growth-tendencies and psychological needs are the basis for their self-motivation and personality integration (ibid). This understanding of human behavior can also be found within role theory, as behavioral patterns and self-regulation depend on the role and social situation the individual finds themselves in. The roles individuals enter in different social situations constitute specific expectations and responsibilities which further steer appropriate behavior (Biddle, 1986). Hence, the level of motivation to meet these expectations may lead to specific behavioral patterns.

Ryan and Deci (2000) have developed a framework explaining different types of motivation that may affect the behavior of an individual. These are: a-motivation, extrinsic motivation, and intrinsic motivation. However, a-motivation refers to the absence of motivation and is therefore not of particular interest in this study.

Extrinsic motivation is behavior driven by external rewards, be it tangible or intangible. However, the individuals themselves are not always aware of the integration or internalization of values and regulations connected to specific behaviors (ibid). Recycling or traveling for work can be seen as actions based on extrinsic motivation, as you are behaving according to what society or your job expects of you.

Intrinsic motivation is descriptive of the motivation that comes from the inner self and serves as a part of the individual. It is activated when behavior is performed because of the enjoyment or interest the individual feels towards it. An example of intrinsic motivation is the curiosity humans have in terms of learning new things and discovering their surroundings (ibid). Ryan and Deci (2000) also point to the fact that the ability to make choices, acknowledgment of feelings, and opportunities for self-direction enhances the level of intrinsic motivation as it boosts the feeling of autonomy.

Contrastingly to Ryan and Deci (2000), Van der Werff et al. (2013) distinguishes between enjoyment-based and obligation-based intrinsic motivation. Enjoyment-based intrinsic motivation is present when the behavior itself is enjoyable to perform, such as traveling for leisure. Obligation-based intrinsic motivation is present when the individual feels obliged to behave according to a rule, norm, or principle (ibid). This notion of intrinsic motivation differs from Ryan & Deci's understanding of intrinsic motivation as they define it to be something that comes from the inner self, not as influenced by external factors as obligation-based intrinsic motivation seemingly is. However, the obligation-based intrinsic motivation is similar to Schwartz's (1977) definition of personal norms as it is connected to one's moral obligations and how the strength of morality steers one's behavior in specific situations (ibid). The motivation which dominates when behaving a certain way is often dependent on the objective behind- or the nature of the activity. Paying taxes is normally not a joyful activity in itself, but because of obligation-based intrinsic motivation people do it anyway. However, when paying taxes or performing civic behavior positive feelings may occur and it may feel joyful because you are consistent with your morals and contribute to a good cause (ibid). Overall, pro-environmental behavior is often related to less pleasure and more effort.

Hence, van der Werff et al. (2013) considers obligation-based intrinsic motivation to be the most relevant form of motivation when explaining pro-environmental behavior. Thus, people with a strong environmental self-identity are more likely to feel morally obliged to perform pro-environmental behavior (van der Werff et al., 2013).

3.4 Change theory - a need for an institutional change

By examining existing theories on the attitude-behavior gap in climate concern and travel behavior, it is interesting to explore how this gap could be closed. Additionally, it is intriguing to explore what or who can influence the behaviors of individuals toward more climate-friendly choices (Hibbert et al., 2013). Institutions govern the actions of both individuals and society. When assessing individual behavior and ways to modify it, role theory provides a tool to understand why individuals behave the way they do and how their values and beliefs are intrinsically part of their decision-making. As such SDT elaborates on the motivations an individual will use to determine their actions in the role they occupy.

In order to instigate change in the processes which guide human action and behaviors, Opp (2018) discusses Coleman's (1964) theories of norm emergence, through sanctioning and the power of social networks. Norm emergence can also be the result of a behavioral bias of herding, when the social circle around you behaves a certain way, an individual is inclined to behave in a similar way so as to not be sanctioned by society (Opp, 2018; Botzen et al. 2021). A clear example of this has been seen during the Covid-19 pandemic when the norm of wearing face masks in public and keeping social distance emerged.

Similar to Schwartz's (1977) norm activation theory, norm emergence also plays a role in adjusting expectations around a particular role in determining pro-environmental behavior. Sanctions in environmental politics plays a significant part in determining the social norms society will follow in terms of environmental behavior. The lack of focus on problems such as climate change, which has a low probability but high cost, is a key problem with political decisions. Politicians and policymakers are not inclined to make policies which will only benefit future generations and not short-term rewards in order to gain more political power and votes (Hochachka, 2020). As such, sanctions in the form of public perceptions and votes remain key factors to influence the institutions (Opp, 2018). de Groot et al. (2021) further argue how social norm interventions are always impacted by individual personal norms. They argue that individuals with weak personal norms (or moral compasses) are more easily targeted by social norm interventions to enhance pro-environmental behavior.

From a social psychology perspective, personal norms originate from individual conscious reasoning and contemplation regardless of social expectations. This differs from the institutionalist perspective where internalized norms are largely formed by different cultures. When an individual has stronger moral beliefs about a certain topic, the level of social validation they get from their surroundings would impact them less (de Groot et al., 2021). The norms which have emerged during the pandemic, such as online work meetings, wearing a facemask, and reduced travel habits are all social norms which have been forcibly internalized by the urgency of the pandemic. The pandemic has in many ways demonstrated norm emergence and norm activation through legal measures in order to change behavior. People adjusted their behaviors by keeping social distance and wearing facemasks because it was for the greater good. Can we learn lessons if we change the way we behave now in order to save the greater good later? The impact on individuals' roles and climate concern is a more long-term change which remains to be observed. Nevertheless, norm

emergence can determine behavior and role expectations if it becomes internalized and part of individuals' moral compass. As such, theoretically it could alter a person's perceived climate concerns for travels.

3.5 ACT-Framework

Reflecting on the above-mentioned theories, the framework in Figure 1 provides a visual representation of the interconnectedness between the theories explaining human action relating to their travel behavior. The figure is an adaptation of the ACT-framework to specifically fit this study but maintains the key principles of the original figure (Vatn et al., 2022).

Level 1 visualizes the general social and physical contexts along with individual values, beliefs, and characteristics which all provide an outer shell for determining environmental action. These represent some contextual factors which, in part, form the foundation of roles.

Level 2 is impacted by Level 1 and narrows in on issue-specific factors, in this case climate concern, leading to action. This includes the climate change debate, and the climate-related social context of each individual. The climate-related personal norms (such as recycling and other pro-environmental habits) are also included in this level due to its relevance of exploring individual norms for climate behavior in general. Role theory, as mentioned above can help explain the differences in personal and social norms, or internalized and non-internalized norms, at this level and the next.

The issue-specific factors impact behavior-specific elements in Level 3 including individual climate concern, beliefs, habits, and personal and social norms about traveling. These will for example determine the level of "flight shame" an individual will feel. SDT provides a deeper explanation for human motivation to act the way they do based on their norms, values, and beliefs explored in the previous two levels of the framework.

Lastly, applying theories from Opp (2018), Schwartz (1977), and Cialdini and Trost (1998), the understanding of the three levels of factors can explain individual action in Level 4. Specifically in terms of their climate concern about traveling and the impact of role on the possibility to change their behavior.

As explained above, the role activation theory helps identify which role is "activated" in certain contexts. In the adapted ACT-framework, a visualization has been added to show which levels impact roles the most. Level 1, 2 and 3 constitute the foundation of roles as well as the

individuals' realization of the role. They are based on elements on a personal level, but also formed by the social contexts in Level 2. Nevertheless, it will be a combination of the three levels which will determine how an individual will realize a role. This study seeks to examine the impact of these changing roles on individual climate concern when flying.
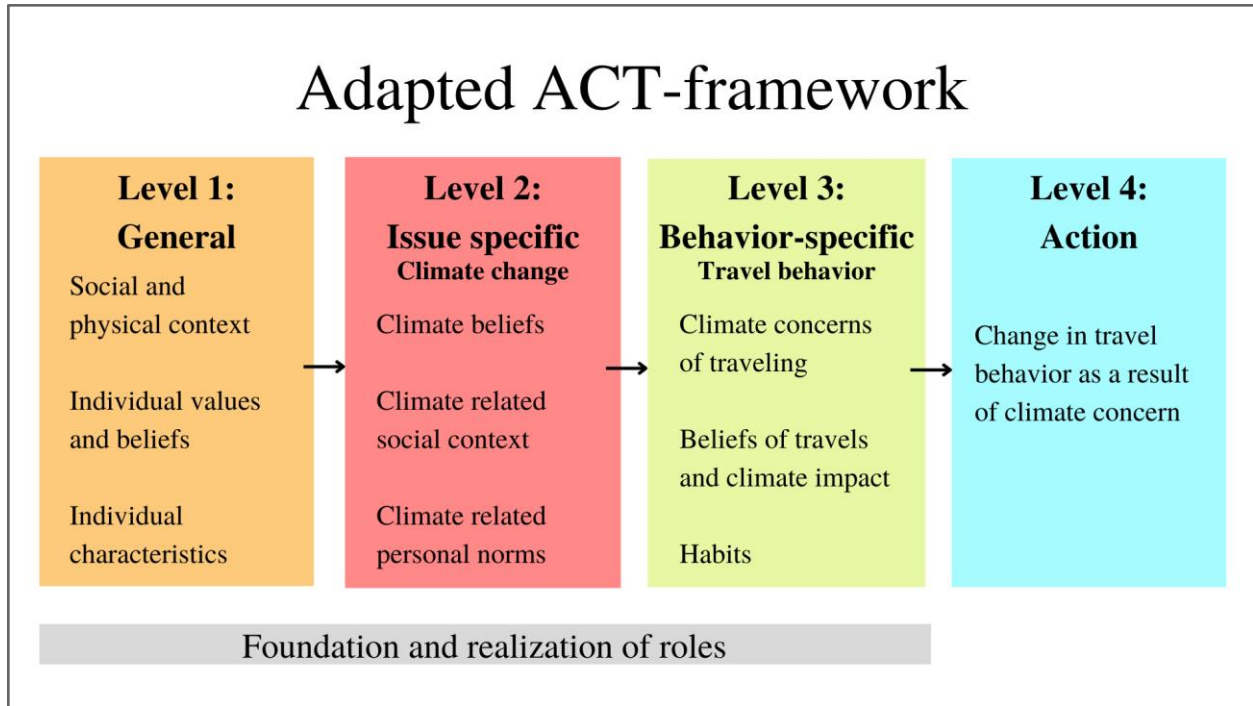
Figure 1. Adapted ACT-framework. Adapted from Vatn et al., 2022.

4. Methodology

This chapter elaborates on the methodology of the study, including the research questions, research design- and methods, ethical considerations, and limitations and assessment. To summarize, a mixed-methods approach including cross-sectional data was used to address the following research questions: *In what way do individuals' climate concerns of flight travels vary based on the perceived role they inhabit?* and *has the Covid-19 pandemic impacted individuals' motivations and climate concerns of traveling by plane?* We used qualitative data acquired through individual in-depth interviews to conduct an archetype analysis, complemented by quantitative data from a values questionnaire and from the ACT-project. An interview guide was made a priori to ensure our ability to collect the data we needed to answer our research questions. The main goal of the interviews was to collect primary data on individuals' opinions connected to their understanding of their roles and how these might influence their level of climate concerns towards flying. Additionally, the interviews inquired about the change in climate concern and flying behavior before and after the pandemic.

4.1 Study design and methods

A research design encompasses all aspects inclusive in the framework for data collection and for the data analysis (Bryman, 2012). For this mixed-methods study, an embedded design has been utilized which encompasses instances where one dataset functions as a secondary role in the research, by providing support to the primary dataset (Creswell et al., 2003). In this study, the qualitative data served as the primary dataset, while the quantitative data served as the secondary dataset used to supplement the research.

Qualitative data is used to address the research questions and to further understand the motivation and rationality behind the participants behaviors and attitudes towards flying. Information on the individual perceived roles' impact on climate concern was found both through a brief literature review of previous research, as well as through semi-structured in-depth interviews with the 22 participants. This provided information regarding the participants' current climate concerns of traveling and their travel behavior. At the same time, a longitudinal aspect was added by inquiring about the change in travel behavior and climate concern following the pandemic. The qualitative data obtained through semi-structured interviews was used to conduct

an archetype analysis, as explained in Chapter 4.5.1.1. Relevant quotes were extracted during the analysis of the interviews sorting relevant themes to detect the present trends more easily.

To supplement the qualitative data, quantitative data from the study participants responses on a values questionnaire was included. This study has replicated a values questionnaire from the ACT-project run by CICERO (Appendix C). ACT is based on an annual survey that tracks Norwegians' responses to climate mitigation measures. The project focuses on getting a deeper understanding of attitudinal and behavioral responses to policies relating to climate change mitigation, both on the individual- and the household level. Hence, the project can provide insight into individuals' attitudes in relation to climate concerns connected to traveling by plane. The quantitative data from the ACT-project was received in an Excel document, where it was sorted by date of collection, then by age of participants. Although data from 2018 to 2021 was received, only the first and the last year was used. Both years were included in order to see if there had been a significant change in core values from before the pandemic to mid-pandemic. The 2019 and 2020 datasets were excluded to simplify the mass of data points. The data points selected from the ACT-datasets only included results which provided the same information as we gathered from our own study participants.

4.2 Choice of study area

When choosing a study area, it is important to consider what is attainable and what would enrich the study with the best possible data collection (Bryman, 2012). Norwegians represent a group with substantially high flight frequency both for leisure and business abroad (in a pandemic-free year) (Aamaas & Peters, 2017; SSB, 2019). It is therefore interesting to examine the climate concern Norwegians might feel towards their flight travel, and whether this varies based on the role they inhabit in different situations. Hence, the study area was set to Norway but delimited by only recruiting Norwegians physically at the central station in Oslo and nationally on LinkedIn, resulting in an uneven demographic representation of Norwegians. Because of Norwegians' high frequency of flight travel before the pandemic, it is also interesting to see whether the restrictions implemented under the pandemic have impacted their motivations and climate concerns connected to flights.

4.3 Sampling methods

In this subchapter the sampling method is presented for both the qualitative and quantitative sampling. This includes sampling criteria and the approaches used to achieve the final study sample.

4.3.1 Qualitative data

We used stratified random sampling for the physical recruitment and snowball sampling for the online recruitment as the primary methods for identifying participants for the study. These methods allowed for the sample population to be stratified to Norwegians who are physically able to travel. The sampling criteria set prior to the study were the following: Norwegian citizenship, 22 years or older, and have traveled by plane at least one time during the last four years.

The recruitment process was done both physically and digitally. We recruited random people physically at the central station in Oslo (Jernbanetorget) by asking them a few questions to ensure they fit our sampling criteria. Through our digital recruitment on LinkedIn, we also included our sampling criteria so that the ones signing up to participate were of relevance to the study (Appendix A). Snowball sampling in our social networks was also used as a sampling method in order to recruit enough participants for the study. We started the sampling process at the beginning of February and continued until we were satisfied with the number of participants.

The final study sample included 22 Norwegian citizens between the ages of 22 and 64, fairly evenly divided with 12 men and 10 women, from seven different counties in the country. Although, neither of the variables defining gender or counties are of any particular interest in the study. The study participants were heavily over-represented by individuals that were 30 years old or younger. Three of the 22 participants have children, and four of the 22 live alone.

Table 1. Sociodemographics of the 22 participants.

Interviewee ID	Gender	Age	Code (Participant (P), Gender, Age)
1	Male	24	P1-M24
2	Male	27	P2-M27
3	Female	25	P3-F25
4	Male	29	P4-M29
5	Female	28	P5-F28
6	Male	28	P6-M28
7	Male	30	P7-M30
8	Female	25	P8-F25
9	Male	30	P9-M30
10	Female	29	P10-F29
11	Female	27	P11-F27
12	Male	25	P12-M25
13	Male	30	P13-M30
14	Female	63	P14-F63
15	Female	64	P15-F64
16	Female	26	P16-F26
17	Male	25	P17-M25
18	Male	22	P18-M22
19	Male	51	P19-M51
20	Female	52	P20-F52
21	Female	41	P21-F41
22	Male	47	P22-M47

4.3.2 Quantitative data

The quantitative data from the values questionnaire in the ACT-project consists of Norwegians aged 18 years and older with approximately 4000 participants included in the study sample each year. For this study, we chose to include the samples from 2018 and 2021. Participants who had answered "Don't know" for any of the statements were excluded from the study. This resulted in a total of 8722 participants (N=3938 for 2018, and N=4784 for 2021) both women and men aged 18 years and older.

4.4 Data collection

The data collection method represents a significant part of any research project as it provides insight into the basis from which the result of the research originates (Bryman, 2012). This section addresses the collection methods used to retrieve the qualitative and the quantitative data.

4.4.1 Qualitative data

For our qualitative data collection, we conducted semi-structured in-depth interviews, using a pre-developed interview guide (Appendix B). Semi-structured interviews were used in order to allow the participants to digress outside the questions providing potentially useful insights to their opinions (Bryman, 2012). This way concepts and theories can more easily emerge from the collected data material.

The interview guide was structured based on the ACT-framework and divided into four main categories of questions based on the issues within the four levels of the framework. This gave the opportunity to connect the participants' answers more easily to the theories behind the framework. The interview guide helped us stay on track with the objective of our study and ask pertinent questions during the interviews. As it was relevant to explore the purpose of the participants' travels (indicating certain roles), we predefined three categories of travel; business-, leisure- and visitations, but some participants added other categories like study-related and sports-related trips.

The duration of the interviews varied from 30 to 60 minutes and the majority was held digitally on video calls through Zoom. Additionally, some were conducted by phone and a few

physically in Oslo. The interviews were recorded and played back afterwards to complete the transcription. All participants were anonymized and renamed using the codes in Table 1.

4.4.2 Quantitative data

Quantitative data was extracted based on a values questionnaire digitally distributed to all participants. The questionnaire consisted of nine statements replicated from the survey of the ACT-project, referring to the participant's self-enhancement-, self-transcendence and environmental values (Appendix C). An example of a statement for self-enhancement was: "Having a good time is important to her. She likes to spoil herself". To explore environmental values, participants were asked for example how they related to the following statement: "She strongly believes that people should respect the earth. Humans should live in harmony with other species". Finally an example of the self-transcendence statements includes: "It is important for her to always behave properly. She wants to avoid doing anything that people would say is wrong". Separate versions of the questionnaire were made to match the gender of the participant. The participants were asked to which degree they identified with each of the statements on a scale from "Very much like me" to "Not like me at all", which was then given a numerical value from 1 to 6 respectively. Once the participants were categorized, the average values based on the questionnaire were calculated for each archetype.

Data from the ACT-project was provided from CICERO and two datasets from 2018 and 2021 were included. The datasets included the answers from the respondents in the ACT-project and provided the same values (1 to 6) to each of the statements included in this research. The data from the project provided an insight into a larger population, covering more geographical locations in Norway, to see how our data matched the rest of the Norwegian population.

4.5 Data analysis

The objective of data analysis is to manage the raw data collected in the study. This is done through data reduction, enabling the researcher to better detect the trends within the data material (Bryman, 2012). In this study, primary data and secondary data has been analyzed and the following sub-chapters will elaborate on the methods used for data analysis in this study.

4.5.1 Qualitative

The qualitative analysis was done following the completion of the transcription of the interviews. Thorough transcription ensures that there are no obvious flaws in the data material during the data analysis stage (Bryman, 2012). All answers were noted in an Excel document in order to compare the responses more easily. Once this was completed both researchers read thoroughly through all interviews and wrote a short summary of our understanding and interpretation of the participants' climate concern, and noteworthy comments. Once this was completed, a common understanding and interpretation was reached. From there, based on mutually agreed criteria, an archetype analysis was conducted.

4.5.1.1 Archetype analysis

When examining climate-related problems, such as flying behavior, generic factors may be too abstract to use as every case is different. It is also difficult to draw a general conclusion of the various dimensions connected to the problem (Eisenach et al., 2006). Hence, an archetype analysis might help make sense of the data.

When performing archetype analysis, one tries to find patterns and similarities in order to capture certain types within the data material. This categorization of types, or archetypes, helps structure the collected data and better understand the trends detected in each group. Because most cases can not be explained by a single archetype, Eisenach et al. (2006) describes archetypes as building blocks. Archetypes are constructed through the identification of variables and relations comprising biophysical and socio-political dimensions (ibid). Variables are understood as symbolic representations that can be associated with changing or differing characteristics. These are not quantitative indicators connected to numbers but defined by any attribute or other qualitative property the individuals inhabit and are semantic and enhance intended meanings (ibid). For this study, the participants' climate concern and their actual behavior were the two main criteria used to define each archetype.

Hence, when looking at the collected data from our interviews, we found which participants were most like-minded. From all 22 individuals, we ended up with five archetypes named and arranged on a scale considering how they associated with the criteria, and the following order emerged: the Climate Activist, the Optimist, the Average Joe, the Free rider, and the Climate Denier.

4.5.2 Quantitative

In order to analyze the quantitative data from the values questionnaire, we calculated individual average environmental value-, self-transcendence-, and self-enhancement value score for each participant. The average values for each participant were presented in a bar chart allowing for easy comparison between the archetypes (Appendix D).

To reduce the ACT-data material, participants who had answered "Don't know" in any of the responses were excluded from the sample taken. Further, averages based on each of the three values were made for all ages from 18 to 89, for both the 2018 and 2021 questionnaires. The averages were then compared to find trends and patterns in the datasets. The data was also used to evaluate the representativeness of the data from this study, which was seen in Figure 7 and 8, and Appendix E.

4.6 Ethical considerations

Before recruiting participants, the study was approved according to directives from the Norwegian Center for Research Data (NSD). As the study requires the participation of individuals and the sharing of personal opinions, informed consent was obtained from all participants (Appendix H). In addition, the data collection ensured the anonymity of participants. Challenges associated with evaluating people's perceived role and climate concern when it comes to flying are, for example, their reluctance to share honest opinions on these issues. There is a certain stigma around climate concern of flying and thus people may alter their true attitudes to not feel judged. As such, conducting interviews individually and not in focus groups allowed the participants to answer more honestly. Furthermore, participant validation was possible by sharing the results of the study openly (all the while completely anonymized). In terms of the random sampling, participants were given the opportunity to exit the interview whenever they felt like it.

Information regarding the identity of the participants was kept in a separate file and document than the answers of the participants. The document with responses only used a randomized ID for the participant (Table 1). The audio files and contact information will be deleted following the completion of the research project.

4.7 Assessment of study limitations and trustworthiness

The following chapter assesses the limitations of the study and elaborates on its reliability and validity. It reveals areas where further research can expand on the topic and aims to provide transparency in where the research is flawed.

4.7.1. Delimitations and scope

Due to the short time span of this study of only 6 months, limitations as to the scope of the study had to be made. Firstly, the final study sample included 22 participants, which is relatively small to make any generalizable conclusions. The ages of the participants were strongly skewed towards the younger age groups, with 16 out of the 22 participants aged between 24 and 30. This could interfere with the climate concern and travel habits. The younger participants also had very few work-related journeys and were therefore somewhat unable to give insight into any changes in behavior based on the type of journey. The results were therefore not representative of older age groups and clear trends and conclusions were hard to draw. Furthermore, as sampling mainly occurred in Oslo, through snowball sampling, and via LinkedIn, the sample only contained participants from seven random counties in Norway, thus not representative of Norwegians.

4.7.2 Implications of the qualitative data collection method

As aforementioned, we started recruiting participants for our qualitative interviews at the central station in Oslo. This seemed to be quite inefficient, with only 5 out of 15 individuals agreeing to participate. Therefore, we decided to expand our sampling methods by recruiting people online. The online recruiting was done through a post on LinkedIn, which seemed to be a more efficient approach. However, as we recruited through our personal networks, the majority of our study participants were individuals at the same age as ourselves and some were acquaintances.

The interview guide was structured in order to not intimidate the participants from answering honestly. Hence, less complicated questions about themselves and their traveling behavior were asked before the questions about their climate concerns, values, and beliefs. The questions were also grouped so that the ones concerning themselves and their social networks were separated. This way we could capture if there were some mismatches between their opinions about themselves, and the opinions they believe their social circle has about them. These answers

provided insights into the participants' cognitive dissonance. Questions were developed in a way that would not insinuate a desired answer, but rather facilitate honest answers.

4.7.3 Issues regarding the analysis and translation of the qualitative data

In terms of the analysis of the qualitative data, all analysis was performed in Norwegian, as this was the language used in the interviews. Therefore, there is a chance that some elements might have been lost in translation, in terms of understanding exactly what each participant wanted to convey. Additionally, when participants explained their pro-environmental habits, it was unclear whether it was because of their concern for the climate or other independent motivations. Furthermore, the difference between the use of the word 'climate' and 'environment' is not implicit to everyone and was often used interchangeably in the interviews. The ACT-questionnaire was also based on questions regarding environmental values, making connection with climate concern somewhat confusing.

In order to be as precise as possible, direct quotes have been included where relevant. Hence, the essence of the participants' values and beliefs, as well as their level of climate concern in relation to flight travel, should be captured. Furthermore, as with any analysis of interviews, the results are based on our own perception and understanding of the responses. Information may have been missed or misunderstood due to our interpretations of the quotes.

4.7.4 Reliability and validity

For this research project, it is fair to say that there are varying levels of validity and reliability. Reliability and validity represent key criteria within social research. Reliability is concerned with the degree to which the results of the study are repeatable (Bryman, 2012). Validity is further concerned with the integrity of the findings. Additionally, there are several forms of validity, such as; measurement-, internal-, external-, and ecological validity (Bryman, 2012). Even though all participants in the study fit the sampling criteria, it is not possible to generalize the results. The results are based on a sample of 22 individuals, some of them randomly recruited and some were acquaintances. Measurement validity is especially relevant in quantitative research and reflects on whether the measurements are suited to represent the concepts that are supposed to be studied in a specific research project. If the measure is unreliable in terms of providing an understanding to the specific concept, it cannot be considered as valid, as with the confusion between the application of the terms: climate and environment, in our study.

Internal validity is further concerned with the causality of the study, and raises the question of whether the independent variable actually affects the variation of the dependent variable: Do different roles affect the level of climate concern amongst individuals? Additionally, the age variation was unequally distributed towards younger individuals. Hence, the results from this study are not directly reliable, but represent a fair level of internal validity as we have detected causality between the independent and dependent variable. External validity goes beyond the research project and is present when the results can be generalized beyond the specific research context (Bryman, 2012). When the research is considered to be externally valid, the results are expected to apply to a population beyond the study participants. Hence, the recruitment process is crucial to ensure external validity. As such our study is limited in its external validity, due to the small and uneven sample size. Finally, ecological validity questions whether social scientific findings are applicable to natural social settings (Bryman, 2012). Furthermore, ecological validity is difficult to test as we cannot know for sure if people do as they imply. Nevertheless, the preliminary results are somewhat coherent with the institutional and social psychological theories, which suggests that some ecological validity exists.

4.7.5 Possible biases

As aforementioned, we used our personal networks to collect participants for our study, which may have caused some selection and information biases. It is possible that some participants answered in a more climate-friendly manner than they would otherwise do, because they wanted to be perceived as "climate concerned" as they knew the context of the interview. Furthermore, as some of the participants were acquaintances, they may have been subject to prejudice and placed in archetypes accordingly. The framing of our questions may also have contributed to some confirmation biases. However, the structure of the interview-guide hopefully made the participants answer authentically to the questions asked. In addition, the issue of non-response was the case for a few participants recruited at the central station, who did not answer to arrange a time for an interview.

5. Analysis and results

This chapter will first include the presentation of the archetype analysis, followed by the results of the qualitative and quantitative data analysis structured according to the two research questions. The embedded design of the research uses the quantitative data in the form graphs from the value-questionnaires to expand understanding of the qualitative results in each archetype.

5.1 Archetype analysis

By conducting an archetype analysis, we were able to identify patterns of behavior and norms amongst our study participants. The creation of archetypes was based on our interpretation of each individuals' climate concern and their perceived climate-friendly behavior resulting in the five archetypes: the Climate Activist, the Optimist, the Average Joe, the Free rider, and the Climate Denier. The following subchapters elaborate on the process of defining the archetypes before presenting each archetype in detail. Conclusively, the challenges of defining the archetypes are discussed.

5.1.1 Defining archetypes

The most important differences between the respondents were their attitudes towards climate change and their actual behavior. These aspects were therefore chosen as the two main criteria for categorizing the participants into the five archetypes.

The Climate Activists and the Climate Deniers represent the two groups that are the most different from each other and who are also the easiest to define (Figure 2). The differences between The Optimists, Average Joes, and Free riders, were smaller, making the grouping of participants more challenging. Nevertheless, there were some obvious differences that made it possible to differentiate the archetypes.

The Optimists want to be considerate in their actions and be climate-friendly in their everyday lives, and they manage to do so in many ways. However, they do not sacrifice as much of their comfort as the Climate Activists do. The Average Joes are concerned about climate change, and they have some low-threshold habits. However, they do not make as great an effort as the Optimists do, and they value their comfort a little more than the Optimist allows themselves to do. Between the Average Joes and the Climate Deniers, we find the Free riders. They are aware of climate change and are concerned to some degree, but they value their freedom and comfort a lot.

They deviate from the Climate Deniers because they acknowledge the existence of climate change and express some level of individual responsibility, as the Climate Deniers do not.
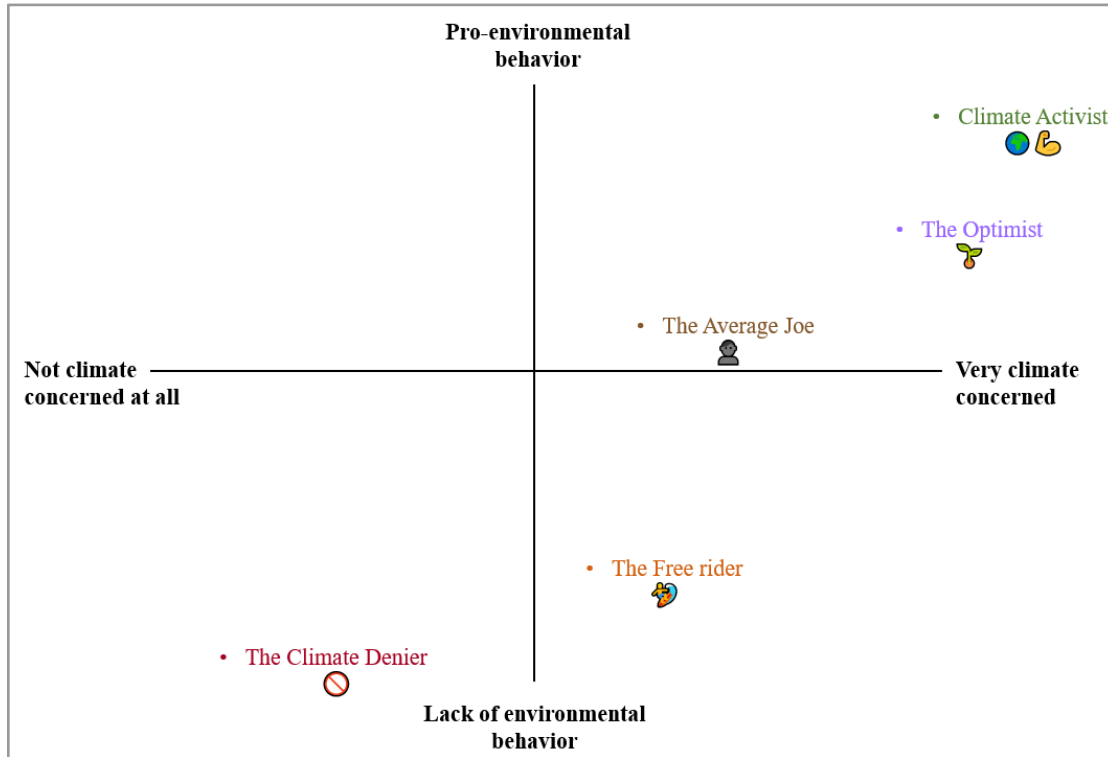
Figure 2. Quadrant diagram showing climate concern and pro-environmental behavior of all archetypes.

5.1.1.1 The Climate Activist: 🌍💪

In the study sample, two individuals were identified as Climate Activists (P14-F63 and P22-M47), one male of 47 years and one female of 63 years old. This archetype has been defined as having a high level of climate concern which is reflected through their actions. Individuals in this group take active choices in their lives in order to minimize their footprint while traveling and doing daily activities. They purchase climate compensation for their flights, avoid flying as much as possible, and they state that they are not influenced by their social circles to behave in a certain way. They restrain their behavior to keep their emissions low and are willing to sacrifice their comfort for the sake of the planet.

5.1.1.2 The Optimist:

The optimists consisted of six individuals (P1-M24, P5-F29, P18-M22, P19-M51, P11-F27, P21-F41) with the age ranging from 23 to 51, with the majority being students. These individuals are optimistic towards making future adjustments of their travel habits and their lifestyle because of their climate concerns. The Optimists are relatively climate considerate in their everyday life and relatively concerned about the climate. Their habits include recycling, eating less red meat and limiting their consumption. They also believe that individuals are responsible for their climate impact, and that we all have to change our habits in order to mitigate climate change. They travel by plane and it is important for them to travel abroad, but most of them pay climate compensation because they feel guilty when performing a climate-harmful activity. However, the Optimists aspire to travel less and to live even more sustainable lives in the future. As one of the optimists argued "If I can change, so can everyone else"(P19-M51). Collectively they believe in individual human action as a strong force to combat climate change.

5.1.1.3 The Average Joe:

From the study sample, seven individuals were included in this archetype, five women and two men (P3-F25, P7-F25, P8-M30, P12-M25, P13-M30, P15-F64, I20-F52) with the age ranging from 25 to 64. This archetype was defined as climate concerned individuals, but lacking climate-friendly behavior, with low-threshold habits being the main contribution of the Average Joe to the environment. The Average Joes do not add climate compensation for their flights but express some guilt feelings connected to their traveling behavior. Additionally, they show some concern for the climate in their everyday lives. They state that they can also be influenced by their social circles on their decisions to travel but will most likely choose the most convenient option.

5.1.1.4 The Free rider:

The Free riders consist of five individuals (P2-M27, P9-M30, P10-F29, P16-F26, P17-M25) with the age ranging from 25 to 30. This archetype includes the individuals who are climate concerned to some degree but not especially climate considerate in their actions. They have low-threshold habits like recycling, but they do not feel that their actions as individuals are valuable in terms of mitigating climate change. The Free riders like their comfortable lives and have low willingness to change their travel habits. They are updated on climate change and hold general

knowledge about the matter, but they seem to dismiss their responsibilities in terms of mitigating their climate footprint. The Free riders are along for the ride and point fingers at authorities as responsible for taking action and making systematic changes that will help combat climate change, such as more widespread public transport, and restrictions on the number of flights per year.

5.1.1.5 The Climate Denier: ⃠

In the study sample, two male participants (P4-M29, P6-M28) were identified for this archetype, with the ages of 28 and 29. They are the least climate concerned and have the least climate-friendly behavior compared to the other participants. They are hesitant in terms of acknowledging the existence of climate change and human involvement in it. They do recycle some of their waste, but not for the sake of the environment, but for the sake of social norms. Otherwise, they do not feel responsible for mitigating their emissions and they are not aware of their own or other people's impact on climate change. In summary, they are indifferent in connection to climate change, close to denying that it even exists.

5.1.2 Value scores by archetype

The questionnaires distributed during the interviews gave quantitative insights into the participants' values, based on their scores on the scale from 1 to 6 (where 1 = "very much like me" and 6 = "not like me at all"). The archetypes were created independently of the data from the values questionnaire. It was therefore interesting to observe that the values of each participant revealed a clear pattern when grouped into their respective archetype. The differences between the archetypes were especially visible for the participants' environmental values.

The Climate Activists related the most to the environmental value statements and scored an average of 1.2, followed by the Average Joe at 2.2, Optimists at 2.4, Free riders at 3.1, and Climate Deniers at 4.7 (Figure 3). Hence, the perceived level of climate concern from the interviews was coherent with the environmental value scores of each archetype, with a sinking level from the Climate Activists to the Climate Deniers. Two exceptions are the Average Joes and one Free rider. The Average Joes have slightly stronger environmental values than presumed in the interviews. The Free rider (P17-M25) also indicated he related the least with the environmental values and scored 5.0 (Appendix D). Although this score was worse than both the Climate Deniers, his results from the interviews matched better with the criteria for Free riders.

The self-transcendence values showed a similar, albeit a somewhat less clear trend. Here the Climate Activists scored 1.8, Optimists at 2.2, Average Joe at 2.4, Free rider at 1.9, and Climate denier 2.5 (Figure 3). The Free riders stood out as they seem to enhance altruistic values more than environmental values. Independent of the participants' different beliefs and actions regarding climate change, their self-transcendence scores remain relatively invariable.

Lastly, the self-enhancement scores showed an opposite tendency to the environmental values although the trend was less clear. The least self-enhanced participants were the Optimists, who scored 4.0, followed by the Climate activists and Average Joes at 3.4. The most self-enhanced participants are the Free riders and Climate Deniers, both scoring 2.5 (Figure 3). This aligns with the observation from the interviews that these two archetypes sometimes put their own needs and comfort ahead of their concern for the climate.
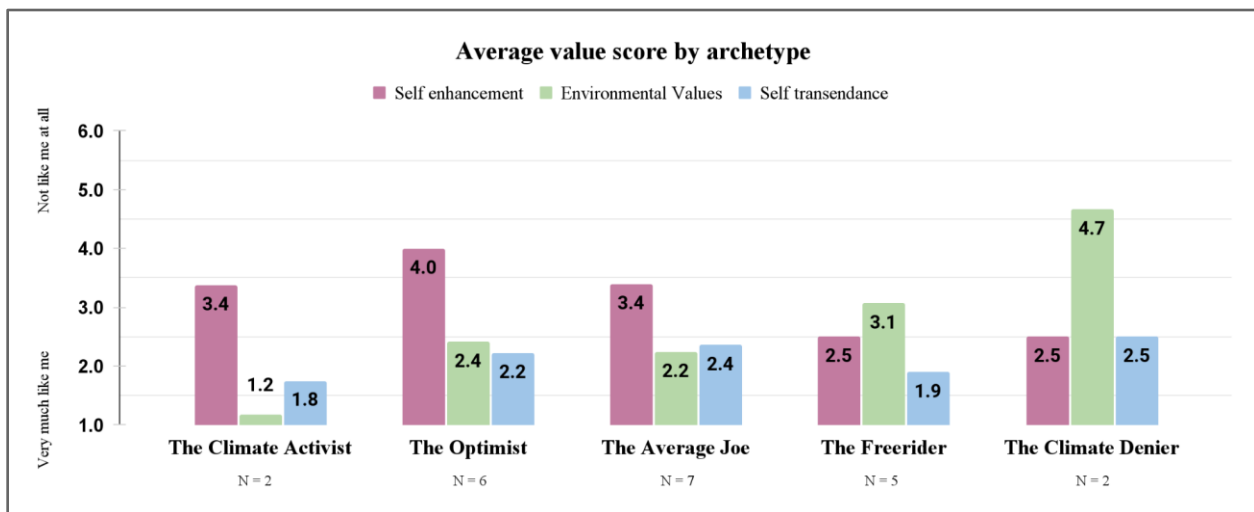
Figure 3. *Archetype average scores for self-enhancement, environmental values, and self-transcendence.* Scores range from 1 to 6 where 1 = "very much like me" and 6 = "not like me at all".

5.1.3 Challenges with defining the archetypes

Defining the different archetypes presented us with challenges and some of the participants were hard to categorize. While each category of archetypes inhabited a few prominent pointers that helped us navigate, some participants were border cases. The most difficult was to distinguish between the Average Joes and the Optimists. They had a similar understanding of climate change, but the most prominent difference was their level of effort at present and their future aspirations.

The ones categorized as the Optimists shared more similarities with the Climate Activists than with the Average Joes. Likewise, the Average Joes shared more similarities with the Free riders than any other group. Hence, comparing participants with the ones in the archetypes on the left and right sides of the scale helped place those individuals in the right category (Figure 2). We found it necessary to include all five archetypes in our analysis because of their noteworthy differing beliefs and particularities. However, there are internal variations within each archetype in terms of the number of participants, their age, and their value scores, which limits the possibility to generalize the results.

5.2 Archetypes' climate concerns and perceived roles

This sub-chapter presents the analysis of the archetypes in relation to the first research question. This includes their level of climate concerns, both in relation to flight travel and other pro-environmental behaviors. Furthermore, each archetype possesses different reasons for traveling, and therefore have varying perceptions of the responsibility they carry for their behavior.

5.2.1 Climate activist 🌐 💪

The Climate Activists expressed the highest level of climate concern and claim to think about climate change on a daily basis. They both have pro-environmental habits and feel a great level of responsibility for how their actions impact the climate, and act accordingly. This includes recycling everything, lowering temperature in rooms not in use, turning the lights off, cycling and walking frequently, and having a low consumption in general, to mention a few. When traveling they strive to transport themselves as climate-friendly as possible from A to B. One of the respondents stated that "*I do not have a driver's license, I look at other ways to transport myself*" (P22-M47). He further added, "*When my wife asks me who should drive to Sørlandet, I ask her why we can't take public transport*". The other Activist was also committed to low-emission transport by using an emission calculator when traveling to Bodø, to find the option with the least emissions. Furthermore, she mentioned that she has biked to Denmark to visit family on multiple occasions, and one time she biked from Paris to Norway.

Both Activists imposed a great level of liability onto individuals, and listed multiple measures individuals can enforce to reduce their climate impact, "*Individuals can do a lot by avoiding flight-travels, drive electric cars, use solar panels as the main source of energy, recycle,*

reduce the cloud storage on our phones…" The list went on, and she conclusively said, *"We should utilize what we have, and not just buy new things for the sake of buying"* (P14-F63). However, they both agreed that it is not solely individuals who are accountable for mitigating climate change. *"The politicians have a lot of responsibility because political decisions have great effect"* (P14-F63). (P22-M47) shared the same opinion, *"Politicians need to develop frameworks that enable change"*. In summary, they believe that everyone is responsible for making an effort and that we are all part of the solution.

As mentioned above, both participants identified as Climate Activists feel a great deal of responsibility and expectations connected to their own climate impact, and one of them expressed the following, *"I feel greater expectations towards myself than I am able to fulfill"* (P22-M47). Additionally, he argued, *"My actions impact the totality, as a role model for my children and as a consumer impacting the market in terms of what I purchase"* (P22-M47). Thus, it is important for P22 to fulfill his role as a good father by making decisions that are good for the climate, and to be a conscious consumer steering the market in the right direction by making conscious choices in the marketplace.

When asking them about paying climate compensation, both confirmed that they do so when booking a plane ticket. The woman said that *"I do it to show the company that it pays off to do things that are good for the environment, and because people are keen to do good things for the environment and want companies to do that as well"* (P14-F63). The man answered, *"I have done it for the last 15 years. But now it is easier for everyone to do it because traveling agencies have made it a step included in the booking process"* (P22-M47).

The Climate Activists worry for the well-being of future generations, as well as for the sake of the planet, and feel obliged to mitigate their own footprints to lighten the burden. *"I am not afraid of what will happen to the Earth as such, but what will happen to future generations. Not necessarily with Norwegians, but the increasing refugee migration patterns and what food we will have available at different times"* (P22-M47).

When the Climate Activists were asked whether their level of responsibility to act in a climate-friendly manner varied based on the purpose of the trips, the woman answered the following: *"If I were to travel to visit my sick mother-in-law I would have to. I can rather avoid business trips and leisure travels because it is not necessary"* (P14-F63). Hence, she believes that the role she inhabits when traveling to visit her sick mother-in-law justifies the decision to travel

by plane. The other Climate Activist answered, "*Time is a key factor more than anything else, together with a conscience-calculation. How long can I stay away from my family? That is a question that affects my traveling choices*" (P22-M47). Thus, the roles of being a present father and husband seem to justify his decision to travel by plane on some occasions. Further, when being asked whether they feel ashamed when traveling by plane the woman said, "*If you work in the climate change domain you might have to fly anyway. If you are a top researcher you have to attend conferences. Therefore, we should not look down on them and flight-shame them. They should be able to travel and be active in their missions*" (P14-F63). However, she argued, "*Even though it is a bad term, I think it is good that some experience flight-shame. We need to take responsibility for our actions and acknowledge the consequences it has for other people*" (P14-F63).

Their consciousness of flying was also seen in their low frequency of trips[1] (Figure 4). P14 emphasizes the difference between traveling with a mission to do something good and traveling solely for pleasure. Hence, the expectations and responsibility connected to the role of a climate change researcher exceed the flight-shame aspect and justifies flying. In this case, the end justifies the means. The male participant affirmed that he also felt ashamed when flying for his own sake, "*Before and afterward, I feel it. I don't know if I feel it there and then. I feel ambivalent. It is a concept I both embrace and want to erase. I don't believe that shame is a fertile emotion, but it is a good tool to initiate change*" (P22-M47).

When asked about their preferred mode of transportation on their travels, both participants argued that taking the train is the better option. The woman said, "*I prefer taking the train or a boat because then I can get where I want with good conscience*" (P14-F63). The man argued that "*I like to take the train. But I am rarely making those decisions alone*" (P22-M47). Additionally, they both are very conscious of the emissions connected to different transportation modes. The woman told us the following: "*I launched a campaign at work about flying less. This was before the pandemic. We collected signatures from the employees affirming that we want the management to reduce their flight frequency by half. The pandemic helped the campaign as the management explored the benefits of Zoom-meetings*" (P14-F63). However, when being asked whether other people should change their travel habits, not concerning business trips, the woman argued, "*Young*

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[1] One trip is considered a round-trip by plane

people should be allowed to see the world. I have traveled a great deal in my own life, so I do not need to travel anymore" (P14-F63).

At the end of the interviews, both participants were asked what their social circles of friends, family, and colleagues would think if they decided to never fly again. P22-M47 argued that he would get mixed feedback from his social circles, with his colleagues and friends being more accepting than his family. "*In my core family, there would be a complete opposition. But it is too easy to blame someone else for my decision to travel by plane. It's about making compromises, and thinking about what is important for my children, which is to do as everybody else does*". P14-F63 also mentioned that some would be a bit frustrated and ask whether they would be unable to be visited by her. However, she expresses that it mostly would be a good thing to do.

5.2.2 The Optimist 🌿

The Optimists experience a somewhat varied level of concern related to climate change. Some are more anxious than others, but the Optimists represent an overall climate concerned archetype. When asking them about how often they think about climate change, one of the participants said, "*I think about it every day and I am very concerned*" (P1-M25). Another Optimist said, "*I am moderately concerned. It is not like I don't sleep at night, but it affects the choices I make in my life*" (P5-F29). The rest of the participants in this archetype shared similar perspectives about their level of concern.

Their pro-environmental habits mostly consist of recycling their waste, reducing their meat consumption, being energy-efficient, buying mostly second-hand products, and being considerate of their choice of transport. Most of them travel collectively by bus and train, or bike and walk, in their everyday lives. Additionally, they try to fly as little as possible, especially on their domestic travels. Most of the Optimists have traveled abroad 3-5 times on average during the last four years, but two individuals deviated from the rest. P19-M51 had over 60 trips during the last four years, mostly work-related and some to visit his family in France. He was also the only Optimist who traveled for work, with around 30 flights in 2018 and 2019 (Figure 4). When asking him about the level of responsibility connected to his travels he answered, *"One has to look at the bigger picture. In my case, I got a job that requires a lot of travel, either I have to get a new job or someone else will take my job. It is difficult. I think everyone needs to look at their own climate-calculation and*

figure out what they can do in their lives to reduce their footprint" (P19-M51). Nevertheless, he argued the following: "*I want to stop flying in 10-15 years when I am not working anymore. Then I will have more time to drive and take the train instead of flying*" (P19-M51). Hence, his role as an employee is the most prominent reason and justification for his flights abroad. Despite his travel frequency, his climate concern and hopes for the future classifies him as an Optimist.

The other Optimist deviating from the archetype had 12 trips to London in 2018, mostly for studies and visiting family and friends. He used his role as a student in England to justify his flight frequency: "*When I was in England I flew a lot, but I had to since I was studying there and that is where I set the limit. I want to be able to study abroad and if you have to, you have to. [There were] No alternatives, so I had to*" (P1-M24). Still, similar to P19, he expressed strong environmental values (with a score of 1.0) (Appendix D) as well as climate concern in his interview. Further he claimed to have ambitious climate-friendly behavior in his everyday life, making him a clear Optimist.

As for the mode of transportation for travels abroad, the Optimists prefer to take the train but end up flying because it is faster and the options are better. One participant said, "*If I am going to Asia, it will be beneficial to fly. But, if there was a super-fast train that could take me there, I would have done it. That is unfortunately not an option. I could also drive, but that would take a couple of months I guess*" (P11-F27). Another participant also said, "*We don't have many options. I do not have a car, and I would take the train, but it takes too much time and it is expensive. Flying is easier and often much cheaper*" (P1-M24).

All the Optimists feel a great deal of responsibility to reduce their climate footprint. Additionally, they claim that all individuals have a responsibility to be climate considerate. One person claimed that "*The free-rider problem is important. Everyone has to make an effort, which means that I am part of the solution*" (P18-M22). Another said, "*I think that everyone is responsible for reducing their impact, but again: it is difficult because you cannot force anyone to do it*" (P11-F27). As for responsibility connected to travel, they also agreed on the fact that it is important to consider whether travel is necessary and consider other options than flying. All of the participants claim to feel flight shame in varying degrees, often dependent on the purpose of the trips. "*If you are to visit family members it is ok to fly, but if it is only to get sun, participate in a meeting or go skiing it is unnecessary*" (P21-F41). Another one said, "*It depends on the purpose of the trip, but I experience flight-shame when I travel just for my own pleasure*" (P18-M22). Thus,

the role of being a good family member seems to justify the means of traveling because the purpose of the trip goes beyond traveling just for pleasure. However, one participant argued that she did not like the term and argued: "*One should rather be climate considerate when on the journey. We won't come far if we are to feel ashamed, we should rather do things differently*" (P11-F27). On the other hand, another participant expressed that he very much liked the term, "*I think it is good that we feel flight-shame. It is about changing our habits, which is extremely hard on a large scale. Flight-shame is good PR. I have worked a lot with marketing and everything is about image. If something is not cool anymore, people won't do it*" (P19-M51).

Amongst some of the Optimists, there was skepticism attached to paying climate compensation for their travels. "*I have done it, but I am critical of it. I think it is more like putting makeup on a large problem. It is more like an excuse to keep on doing the same thing, rather than solving the problem. You dismiss the feeling of guilt, which may lead to even more flight travels. I am critical to the concept and I do not believe that it is the solution*" (P1-M24). Another participant shared this opinion and argued, "*I have done it but I have not seen any effect of it, so I have not done it recently. You push a button and pay extra, but you see little effect from it. I do not know where the money ends up. I want to see the effect before considering doing it again*" (P18-M22). Another participant also argued that she did not pay climate compensation. When asked why she answered, "*Because you pollute the same amount whether you pay it or not. The plane will use the fuel anyways*" (P11-F41). The rest of the Optimists claimed to pay climate compensation because they want to participate in any way they can, and one said the following: "*Everything I can compensate for, I will compensate*" (P19-M51). Another argument for paying the compensation was to trust traveling agencies in terms of taking climate action.

When asking the Optimists about the expectations they have for themselves and others to be climate-friendly, one said " *I think that I have higher expectations of myself than other people have for me. I also expect my friends to do the same as me, by making climate-friendly choices, and if they don't I get a bit disappointed*" (P1-M24). Several of the Optimists shared the same expectations to themselves, and one argued "*I am expected to support my opinions with actions so that it won't just be words*" (P18-M22). The expectations the Optimists have of themselves and the ones others have of them seemed also to be conflicted in some situations. One of them said; "*My friends want to bring me on vacation, but I am not always keen to fly. That can be difficul*t". When being asked whether this affects his choices, he further argued "*It depends on the context*

and whether it is possible to find a compromise. If it is possible to take the train to the same destination or other options, then I would consider that instead. But being a good friend often plays a part in my decisions" (P18-M22). As such, fulfilling the expectations connected to him being a good friend sometimes overthrows the expectations he has of himself of fulfilling the role of being a conscious citizen. Other Optimists mentioned that their children had expectations in terms of traveling abroad for vacation and argued that this sometimes causes a conflict between what they want and what their children want.

The Optimists were also asked the final question concerning what their social circles would say if they decided to never fly again. There were some variations between the Optimists, but most of them argued that their social circles would not have been too shocked if they decided to do it. P5-F29 said the following about his friend's possible reaction; "*They would not feel surprised but think that it will be difficult*". In terms of his family, he said; "*My family would say that it is a big problem because my family lives far from Oslo*". Another Optimist argued that even the ones being extremely climate concerned would think that it is extreme to stop flying. Two of the Optimists mentioned that their children would have the strongest reaction and be very dissatisfied. "*My children would say that it was catastrophic*" (P19-M51). However, P19-M51 claimed that he has an ambition to stop flying in 10-15 years when he is retired and has more time available to travel by electric car or train. He further argued for his ambition by saying, "*I am in a phase in my life where I feel discomfort because I live a life that is not connected to my beliefs. I know that my actions are bad but I do it anyway and get a bad feeling from it*". However, he adds, "*I can no longer enjoy eating meat. This means that things are changing, and if a guy like me can change, so can anyone else*".

5.2.3 Average Joe 👤

The Average Joe archetype is the largest group identified with varying degrees of pro-environmental behavior and climate beliefs, and a significant attitude-behavior gap. All seven participants in this group engage in low-threshold habits such as recycling, energy-saving, and minimal consumption of new goods; one participant actively reads information concerning climate change, and two others discuss climate change actively at work. P7-F25 mentioned, however, that she feels social pressure to have these habits, in order to avoid sanctions. Another participant mentioned that he was satisfied with his efforts and did what he could whilst still maintaining his

lifestyle and happiness (P8-M30). In this archetype, leisure travels were the most common category followed by visits and work. The participants traveled between three and nine times in the last four years (Figure 4).

Various levels of climate concerns were found among the Average Joes, which corresponded with different roles. One participant said, "*I think about it [climate change] because I have grandchildren, so I think it is really worrying*" (P15-F64), presenting her worry as a grandmother which is reflected in her actions. Other participants were moderately worried, some thinking about it daily, others weekly. All participants said they prefer flying to their destinations because it is the quickest way. The grandmother, however, also argued that *"there aren't that many ways to get to Greece*" (P15-F64), which presented another role and expectation from her friends for her to travel on vacation; multiple participants indicated it depends on how far they will travel. If there was better accessibility with trains in and out of Norway, three participants indicated they would prefer this as a way of getting around.

In terms of the responsibility the participants feel in relation to reducing their own climate emissions whilst traveling, the answers were fairly situation- and role-based. One participant indicated she was more climate concerned whilst she was on holiday than during her journey (P3-F25). P20-F52 agreed saying, "*on a work trip, time counts for more, you can't just take a train forever just for a few hours on a project. Privately, however, I can use more time on the journey and let that be part of the holiday. Use of time is important".* In comparison, P8-M30 felt fewer responsibilities on holiday versus work, as he said that "*work travels aren't always necessary because a lot can be done online, whilst holidays are a necessity*" (P8-M30). P12-M25 also emphasized that traveling is a big part of her and what she values, so she would rather reduce her emissions in other ways. Another mentioned how "*visiting someone is a purpose which is more reasonable [compared to holiday]*" (P7-M25). P20-F64 disclosed that she is "*aware of the differences of emissions between the travel modes, but I am far too little impacted by it to change the way I travel*".

The ascription of responsibility for climate action according to four of the Average Joes is to the bigger firms and politicians, whilst still recognizing the importance of individual and collective efforts. One participant indicated that she did not feel much responsibility whilst traveling because of a lack of environmentally-friendly options. P3-F25 stated that she felt responsible, especially when one can afford to make those choices. One participant indicated he

felt that three or more journeys by plane a year is too much. Two participants agreed that there should be more emphasis to encourage pro-environmental behaviors with one saying, "*individuals need to be whipped in order to take responsibility*" (P20-F52).

Although varying levels of responsibility, the majority of the Average Joes feel some form of flight shame when they travel. Only two participants indicated that they do not feel shame when they travel by plane, although one mentioned that the shorter the distance they travel, the more shame they feel when traveling by plane. Another indicated: *"I feel guilty if I am aware of the consequences but pretend like it isn't real"* (P7-M25). One expressed a positive perspective on the concept: "*I think it is a good thing to feel shame if it can lead us to traveling less*" (P20-F52).

Some people buy climate compensation for their flights to ease their conscience, however, in this archetype only one person felt compelled to do so. The other participants argued that it was simply an extra cost which, for one, does not remove the CO_2 which is emitted either way; and two, "*it should be the bigger actors who pay it*" (P8-M30). P7-M25 indicated he had become more aware of the climate compensation scheme and is more willing to start adding it to his bookings from now. P20-F52 argues that she thinks both flight tickets and the price of compensation should be much more expensive in order to discourage people from flying as much as they do.

A common perspective from multiple of the Average Joes was they could do more, one saying: "*I don't always feel like I'm as good as what is expected of me*" (P7-M25). Two others also pointed out that they wanted to change people's perspective of themselves to think they were more climate concerned. Two participants felt they were expected to travel and visit friends in other countries, with two others saying that there is too little pressure from society to be more climate-friendly: "*there should be more focus on it in society, we should be pumped full of information all the time because there is a generation coming after us*" (P15-F64). Another addressed that she feels high expectations from her colleagues to be climate considerate and gets praise every time she bikes to work. Nevertheless, she says she experiences some cognitive dissonance in that she is planning a vacation to the US, but also wants to consider the climate when she travels. P3-F25 has discussed climate-friendly traveling with her friends, and says she has "*become better at checking if I can take the bus instead of flying to where I'm going*". She also mentioned how her friends had said it was so silly of her to be flying from Oslo to Bergen when the train connection is so good; ever since then, she took the train.

In terms of changing travel habits for the environment, three people indicated they think there should be much fewer work trips by plane, as everything is much easier to do online. However, when asked if they themselves could consider cutting down on international holidays by plane, two people similarly denied it and said they would rather cut down on their emissions another way. Aligning with this, the Average Joes' travel frequency seen in Figure 4, reflects their priorities of purpose of the journey. Only one person admitted she was willing to cut down on her international holidays and stay in Norway.

Additionally, when asked about the opinions of their social circles on their decision to stop flying, only one person indicated they would receive support from people saying, "*Good for you!*" (P15-F64). Two participants indicated that it would not be a realistic or feasible situation, and one said people would think it was "*a bit extreme*" (P3-F25). One indicated that some people would be disappointed and sad about missing holidays abroad. One also thought that their family would ask "*oh wow, why are you becoming so climate concerned all of a sudden?*".

5.2.4 The Free rider 🐒

The Free riders were identified as the more ignorant of the participants, choosing to look the other way when faced with climate issues and making choices which don't necessarily benefit them directly. The Free riders travel a lot, with between 8 to 12 international trips in the last four years, and one outlier (P16-F26) with over 30 trips for leisure in this period. When asked if they feel a responsibility to reduce their own climate emissions, all the Free riders blame it on the larger actors in society including businesses and politicians.

When asked if they have a bad conscience when they do not reduce their emissions when traveling, one participant pointed out that it is "*more important for me to go home to my family in 45 minutes by plane than to sit 8 hours on a train*" (P9-M30). This participant's expectations of his role as a father and husband outweigh his concern for the climate, and therefore acts with less regard for the climate. Another participant addressed that he could have felt some responsibility, but "*[I] would not offer a lot of money for it*" (P2-M27). Another participant claimed: "*No. I like not thinking about it*" (P16-F26). The same participant spoke against the idea of introducing a quota of max three flights a year and added "*Try that once in Northern Norway, and we will see how fun you think it is to drive*" (P16-F26).

As such, the question of the conscience and responsibility felt by the participants to take climate considerations when traveling varies based on the type of journey they were on. Two participants said their conscience changes in a job context: *"I can travel with a little bit lighter conscience on work-travels, but it's my responsibility when I travel to visit someone, then I have no one else to blame"* (P2-M27). This suggests that the role and expectations from the workplace have an impact on this Free rider's conscience and that he can recognize the different social expectations from this role. Similarly, P10-F29 said *"I feel I can't use so much time on work-related travels, for my employer. If my employer doesn't want that then they can compensate for the climate."* None of the participants in the Free rider group purchased climate compensation when they booked their flights, and all pointed to the fact that they didn't trust that the money actually went where it was supposed to. Two participants mentioned that they didn't want the extra cost, and one participant mentioned that the cost should not fall on the consumer but rather the airline pays an extra cost.

All participants also regarded the concept of flight shaming as useless. P17-M25 mentioned that the concept itself has almost lost all meaning in that it is used in situations where the person jokes about it, he says: *"It [flight shaming] quickly becomes more ironic than actually having an effect on you".* But other participants indicated it was very dependent on the journey at hand: "*my father travels back and forth to Stavanger by plane and I don't think he should have any shame for that"* (P9-M30). Here the participant indicates that for his father who travels for work, the role of the employee trumps any shame he should feel whilst traveling. He continued: "*it is an incredibly generalizing concept, [...] one thing is to take a private jet to the US just to have a steak, then you can have flight shame because the concept is just idiotic; but if a family is finally going on vacation after months of home office and Covid, then it's as far away from flight shame as possible*". P16-F26 mentioned that the only time she felt flight shame was when "*someone had commented on it and put the shame on me*". P10-F29 also mentioned that shaming everyone for flying is unnecessary since some people simply don't have any other option than to fly. She continued: "*I rather think that one should encourage good travel habits than to give someone a sense of shame*".

In terms of feeling expectations from their social circles to be more climate considerate one participant indicated he felt no expectations from others to behave a certain way. Another participant said he felt pressure from his job. Two participants indicated they felt social pressure

to recycle. In general, the Free riders did not seem very impacted by their social circles in terms of climate change awareness, nor did they indicate any expectations for themselves.

When asked if they think that they themselves or the people they know should change their travel habits (such as limiting the number of vacations outside of Norway) in order to limit emissions, the general consensus was no. One was adamant that holidays were an essential aspect of life: "*I have to have something to look forward to, my gosh it gives me so much joy!*" (P16-F26). Her role as a traveler is something which has become part of her identity and her values to a large extent, leading her to prioritize her own wants before her concern for the climate. This became evident in her travel frequency, as she managed to squeeze in 12 trips for leisure right before the pandemic in 2020 (Figure 4c).

Two participants indicated that they didn't want to have an opinion on if their friends and family would change their habits, saying "*No, that's their business*" (P17-M25) and "*I'm unsure, but it shouldn't impact our relationship*" (P10-F29). Another indicated that because she was from the North, she had to fly to visit friends and family because there wouldn't be enough time to go for a weekend by train or car. Another participant said, "*It does not frustrate me that people travel by plane, I completely understand*" (P2-M27). Similar to P16, this participant's role as a traveler leads him to sympathize with other travelers and their travel habits. P9-M30 argued that his family and friends could change all they want, but that it was not their responsibility: "*Individuals mean nothing, it is the collective which means something in these questions, and the collective have to be forced to change together*".

Related to this question, when the participants reflected on what their social circles would say if they decided to never travel by plane again, the general response was that people would be shocked. One participant mentioned it would be very out of character for him. Two participants indicated they would be laughed at for their decision, with one saying, "*they would say: it's not April fools today*" (P16-F26) and one indicated that his friends would say he's an idiot. Two participants said that *"it's not good to travel, but to travel for cultural understanding and learning is so important"* (P10-F29), and "*it's not just for personal gain but for cultural understanding*" (P16-F26). Additionally, one indicated he would receive support for his decision but also some disappointment as traveling on vacation with his family is important to him.

5.2.5 The Climate Denier ⃠

The Climate Deniers showed very little regard for climate change. Both participants denied that climate change is due to human action, and implied that global warming is only part of a global cycle. Although one of the Climate Deniers said he had the habit of recycling, he said *"it feels like it is the right thing to do. It becomes more of a collective effort, and it is the collective joy that motivates me to do it [not the environment]"* (P6-M28). This participant felt expectations within his social group to act a certain way, and as such, although he does not care about the climate, he behaves in a climate-friendly manner to some degree.

Between the two participants in this archetype, visitations and work-related travel were the most frequent (Figure 4). One regularly took the train; however, this was only because he could do so for free through his work. Otherwise, both participants said they much prefer to fly because of the efficiency and cost. In addition, traveling back and forth by plane to Sweden and Norway every other week did not bother P6-M28 (Figure 4).

Both participants admit to not feeling any responsibility at all for reducing their own emissions and fail to recognize the importance of the global perspective too. When asked if he feels social pressure from his closest circles to be climate considerate, participant P4-M29 said *"No, not really, I don't think they care if I am or not."* Similarly, P6-M28 says he only participates in pro-environmental behaviors (such as recycling) solely because he did not want to be an outcast in a social setting. Nor did either one claim to have any expectations for others or themselves to have pro-environmental behavior. Furthermore, when asked about flight shaming, both participants feel no responsibility to be climate considerate when traveling. As such, neither participant purchase climate compensation when they fly regardless of the purpose of their trip and one claimed *"honestly, I have never even considered it"* (P6-M28). The other mentioned he would not do it, simply because it adds an extra unnecessary cost. The participants also indicated there would be no way they would change the way they travel for the climate, in any case, it would be to save money.

When asked what their friends and family would say if they were never to travel by plane ever again, one respondent said they would be shocked and asked, "*what is wrong with me?*" (P4-M39). The other participant indicated his family would be more supportive of him, whereas his colleagues at work would be more skeptical of the reality of the situation.
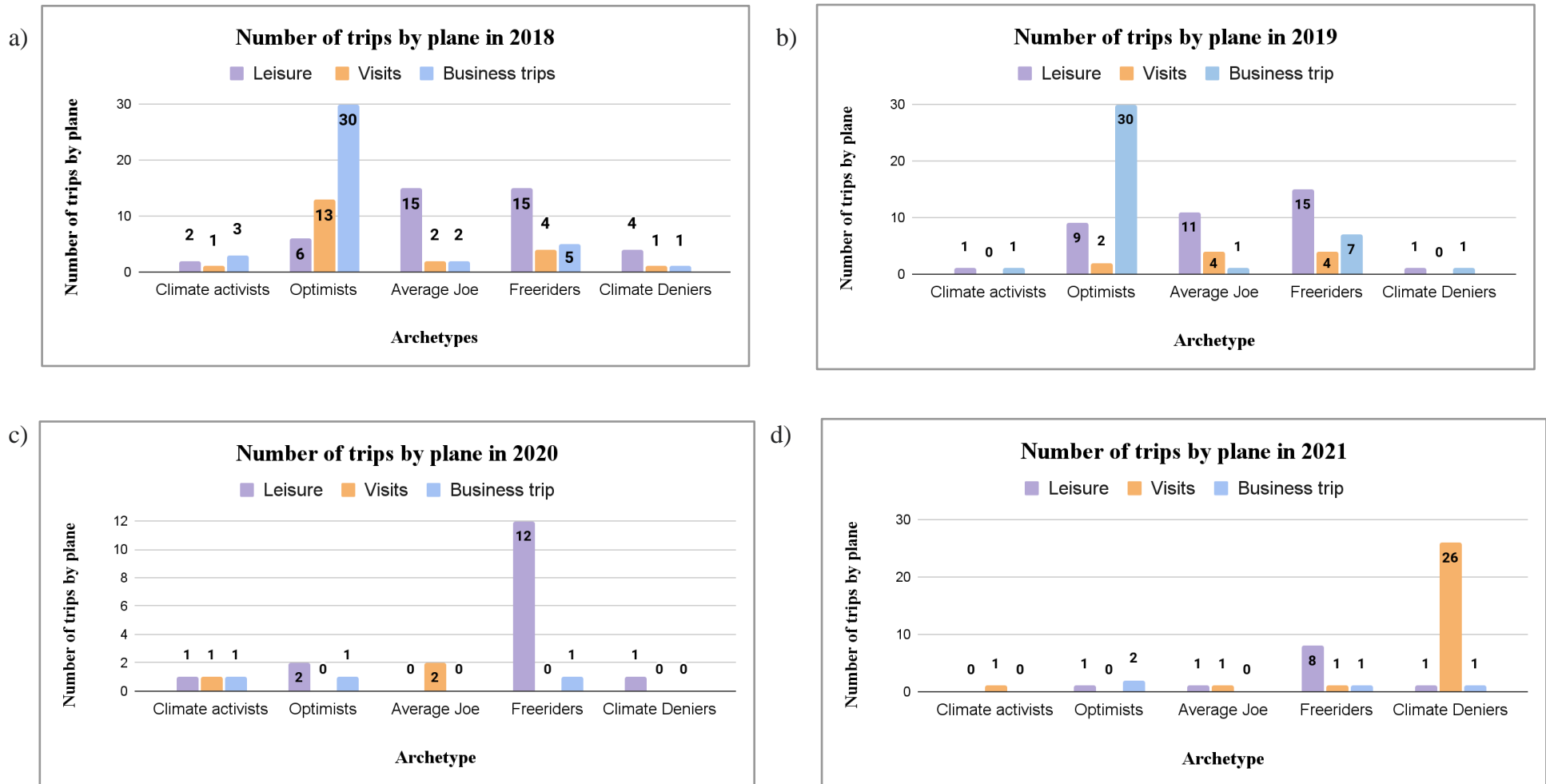
Figure 4. *Number of trips by plane for 2018(a)[2], 2019(b), 2020(c)[3] and 2021(d)[4].*

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[2] The outlier in the Optimists is the only participant who traveled by plane for work.

[3] One participant is an outlier in the Free riders, as she had 12 trips right before the pandemic.

[4] One Climate Denier traveled back and forth by plane between family and work in Sweden every other week.

5.2.6 Quantitative results

The results of the questionnaire provided useful insights into the participants' values in terms of environmental values, self-transcendence, and self-enhancement. The scores by participants can be seen in Appendix D. As seen in Figure 3 above, a linear relationship was detected between the Climate Activists and the Climate Deniers' environmental values with the former at 1.2 and the latter at 4.7. Furthermore, the self-enhancement score for the participants seems to go in the opposite direction, with the Climate Deniers having a higher score of 2.5 than the Climate Activists at 3.4 and the Optimists at 4.0. The self-transcendence score seems to stay fairly stable amongst all participants.

As this study only consisted of 22 participants, we are not able to generalize the results. Nevertheless, as the values-questionnaire used to collect quantitative data from our participants was replicated from the ACT-project, we were able to compare the results. The ACT-project has a significantly more representative study population. Hence, we were able to compare our results and evaluate similarities and deviations in connection to the larger Norwegian population.

The bar charts visualize the trends and differences for an easy comparison of the average value scores (Figure 5 and 6). The self-transcendence score did not show any significant trends or patterns in the datasets (Appendix E), and it is more relevant to consider its confounding effect on environmental value and self-enhancement. It is relevant to mention that in the ACT-project, the environmental value statements were included in the self-transcendence scores. However, for this study, a separate value score was made for both environmental value- and self-transcendence because the value statements varied more between the participants.

In the ACT-project, when participants scored low on climate concern, their self-transcendence values were also low (Figure 5). In our study however, bigger differences were seen as there is no noteworthy relationship between the two value categories and age. Rather it is interesting to consider the archetypes' trends in how they prioritize their values. In some cases, the self-transcendence score is lower than the climate concern such as participants aged 22, 41, 51, and 63. These participants belong to the Optimist archetype and one of them to the Climate Activists (Figure 6). Other ages, including 25 to 29, had environmental value scores lower than self-transcendence, suggesting that they value altruism more than environmentalism. The majority of the Free riders scored this way, as well as both Climate Deniers, one Average Joe and one Optimist. Lastly, participants aged 24, 30, 47, 52, and 64 had almost exactly the same score for

both value categories. Here we find mostly Average Joes together with one Optimist, one Activist and one Free rider.

In summary, the Optimists and Activists value the environment more than anything. The less climate concerned participants, such as the Climate Deniers, had higher altruistic values. The Average Joes had similar scores for environmental values and self-transcendence.
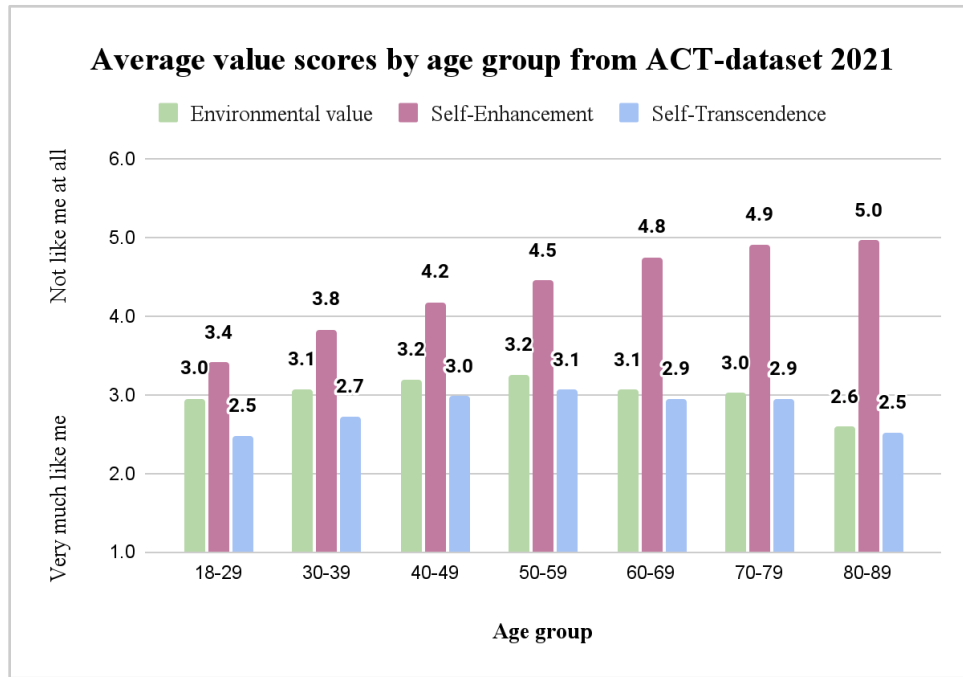

Figure 5*: Average value scores by age group from the ACT-dataset in 2021.* Scores range from 1 to 6 where 1 = "very much like me" and 6 = "not like me at all".
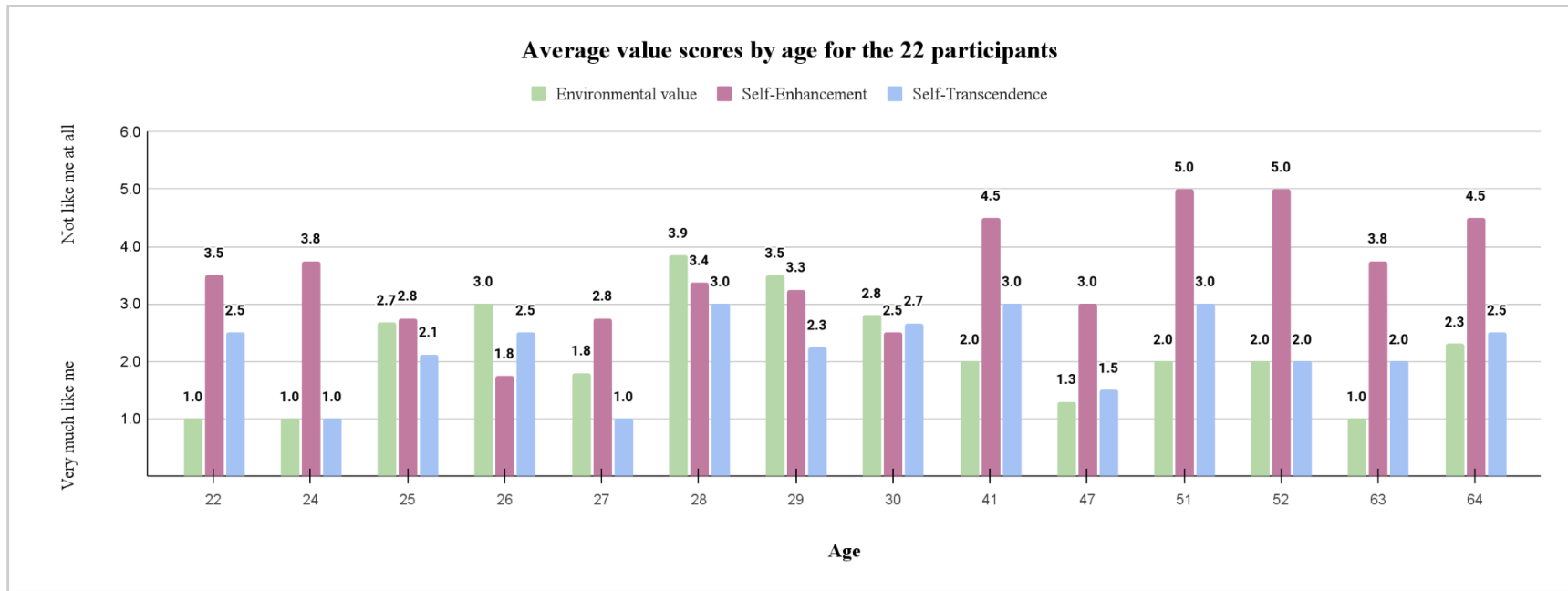
Figure 6*: Average value scores by age for the 22 participants included in the study.* Scores range from 1 to 6 where 1 = "very much like me" and 6 = "not like me at all".

Two additional figures have been made to provide a detailed comparison between the environmental value and self-enhancement value scores from our study (2022) and the ACT-project data set from 2021 (Figure 7 and 8). This allows for better visualization of the representativity of our study compared with the bigger study population.

Our data deviates from the ACT-data, as our sample had a clear difference between the participants' beliefs about climate change. The environmental value scores in our data align with the ACT-dataset as it does not show much of a trend based on age (Figure 6). However, our data has shown that when arranged by their beliefs according to archetype, the trend is much clearer (Figure 3).
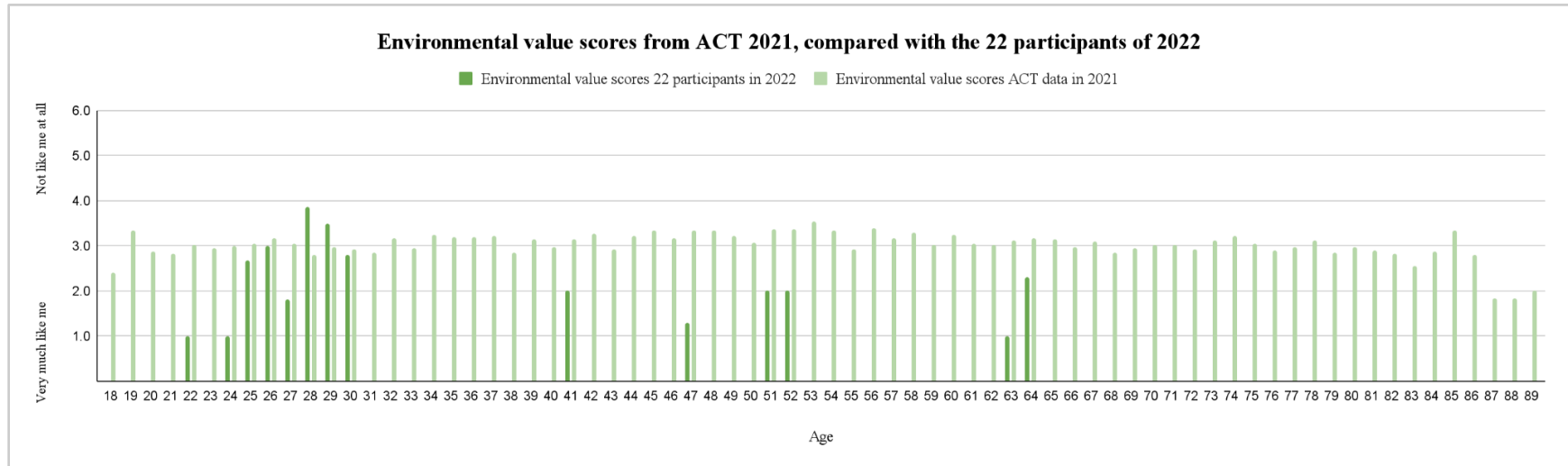
Figure 7. *Scores for environmental value from the ACT dataset structured by age, compared with the values of the 22 participants in our study from 2022.* Scores range from 1 to 6 where 1 = "very much like me" and 6 = "not like me at all".

The trend in self-enhancement in the ACT-dataset from 2021 shows a clear linear relationship where the older population is less self-enhanced than the younger participants. This is slightly seen in our study population as well, however due to the small sample, the trend is not as clear (Figure 8).
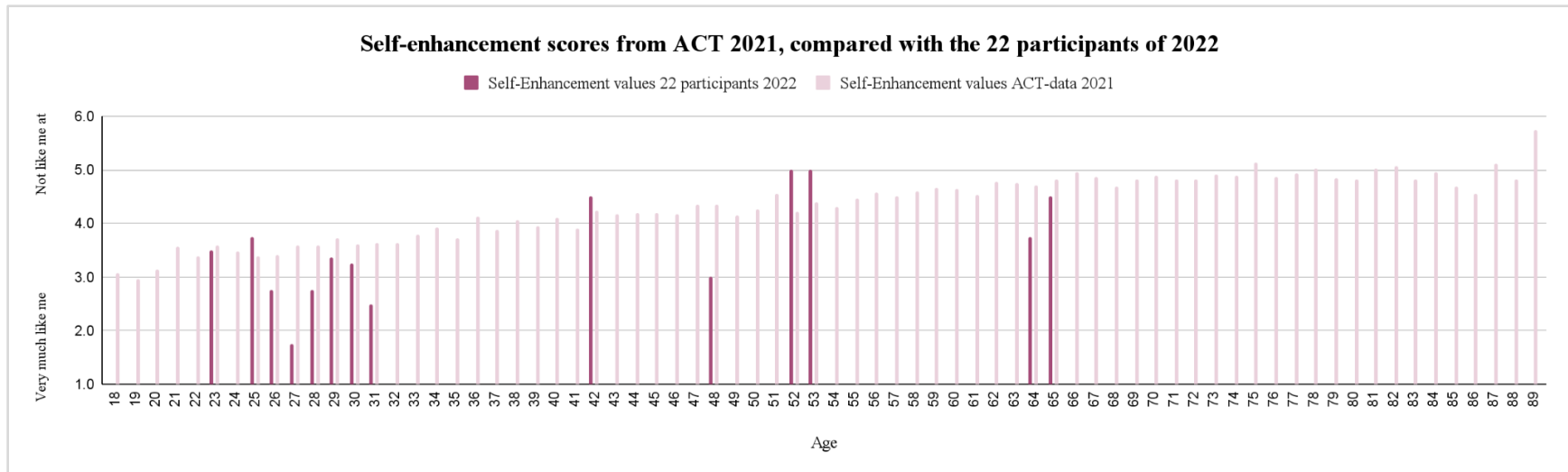
Figure 8. *Scores for self-enhancement values from the ACT-dataset structured by age, compared with the values of the 22 participants in our study from 2022.* Scores range from 1 to 6 where 1 = "very much like me" and 6 = "not like me at all".

5.3 The impact of the Covid-19 pandemic on archetypes motivations and climate concern of traveling

The following sub-chapter addresses the second research question - also structured by archetype. The change in flight frequency for each archetype is discussed, including their intentions for future travel behavior and if their climate concern has changed with the pandemic.

It is interesting to examine the average number of trips for all travel-categories per archetype in both 2018 and 2021. For some of the archetypes, the number of trips is not coherent with their proclaimed values and beliefs about climate change. For example, the Climate Activists having as many trips as the Climate Deniers in 2018. Nevertheless, the reduction in flight frequency is clear following the travel restrictions. However, one of the Climate Deniers had a substantial frequency of trips during the pandemic between work and family. Thus, this behavior is more coherent with the definition of the archetype.
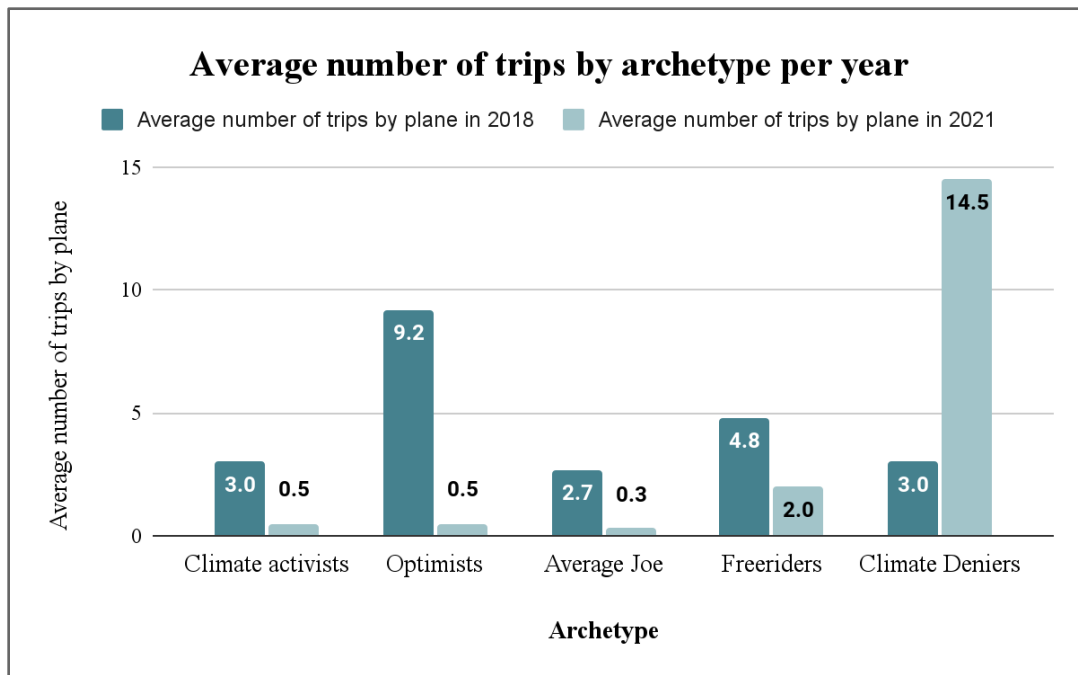
Figure 9. *Average number of trips by plane by archetype per year. All categories of trips considered.*

Because leisure and visits were the most common travel-category before the pandemic, it was relevant to examine the change in flight frequency amongst the archetypes during the pandemic (Figure 10a and 10b). Not surprisingly, all archetypes limited their flight frequency during the pandemic. As the number of participants is unequally distributed, it is the destinations where the participants traveled to, which is of interest. There were significantly fewer trips out of Europe, and a few more trips only in Scandinavia.
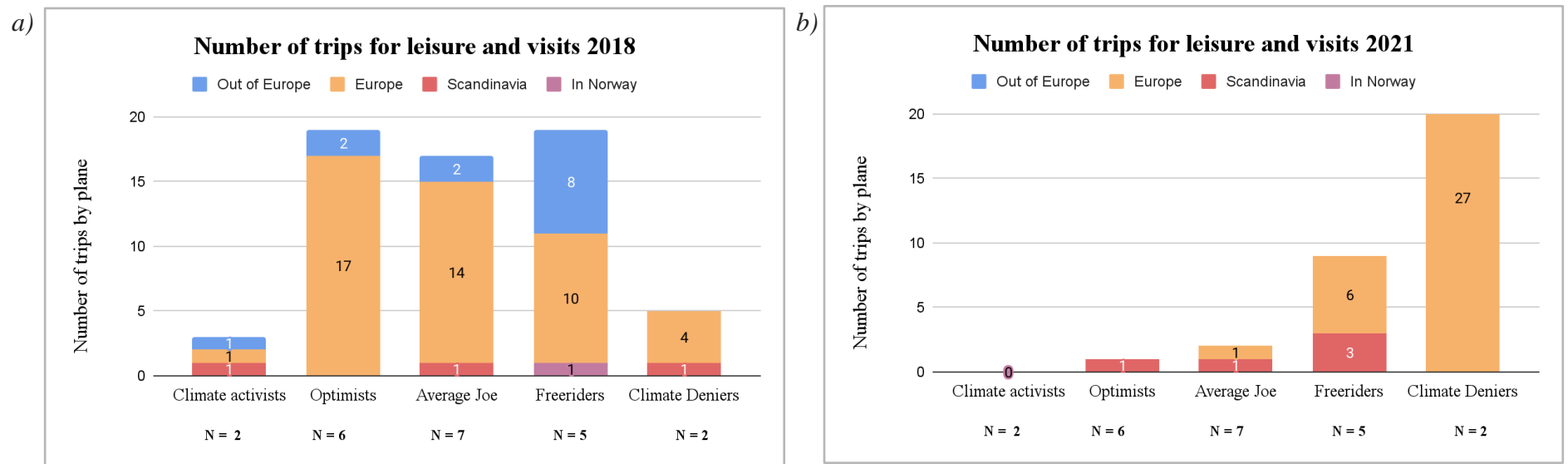

Figure 10. *Number of trips by plane for leisure and visitation by destinations and by archetype in 2018(a) and 2021(b).*

5.3.1 Climate activist 🌐 💪

The Climate Activists did not travel by plane during the pandemic. When asked about whether their travel habits changed during the pandemic, they both agreed that some aspects definitely changed. The frequency of travel abroad changed for both participants, but one of them mentioned: "*My children wish to regain the travels we lost and I try to tell them that it is not how it works, but I believe that we will travel more frequently abroad going forward*" (P22-M47). On the other hand, the other participant in this archetype mentioned business trips to be the most changed aspect during the pandemic, as she did not travel for business at all. As for the mode of transportation, nothing changed for her.

None of the Climate Activists claimed no change in their climate concern in connection to their travels, as they both affirmed to be considerate regardless of the pandemic. When asking the participants whether they had seen some positive or negative impacts on the environment as a result of the pandemic, one of them argued "*I saw that it caused a drastic decline the first couple of months when restrictions were implemented, before the consumption-rate increased a lot even though we traveled less*" (P22-M47). The other participant mentioned the decrease in flight travel as a positive impact, but the increasing online shopping and home delivery as negative. Additionally, they were asked if they saw any similarities or differences concerning the handling of the pandemic and the handling of the climate crisis: "*It is astonishing to see how much societies can change in a short amount of time*" (P14-F63). She further argued that the most prominent difference is that "*There is no obvious deadline for climate change, and one can decide to do things about it if they want*" (P14-F63).

In relation to the first research question, we asked the participants what their most frequent purpose of travel was. Hence, to answer the second research question we were interested in learning whether this has changed with the pandemic. One of the Activists answered, "*I think there will be fewer conferences and projects happening physically abroad. It is easier to conduct online meetings. I think that conferences will be hybrid going forward*" (P22-M47). In addition, he pointed at countermeasures, such as economic aid given to airline companies during the pandemic, and other political questions making it more desirable to travel by plane post-pandemic. "*Different societal voices want to encourage flying internationally, not just for the sake of flying but also because there are destinations who need tourism desperately to restore their economic situation*".

He further added that people might find that "*The joy of giving will outweigh flight-shame*" (P22-M47).

5.3.2 The Optimist 🌱

Only two of the Optimists traveled abroad during the pandemic. One of them traveled by plane to Slovakia on a business trip, and the other to Sweden by car. The remaining participants only traveled domestically in 2020 and 2021. Thus, when asking them whether their travel habits changed during the pandemic, all Optimists agreed. One participant said, "*I work with a Swedish customer and if we had been pre-corona, I would definitely have been onsite in Sweden staying at hotels, etc. Now, I haven't even seen them*" (P19-M51).

When participants were asked to reflect on whether the pandemic has increased their climate concern, there were some varied answers. Some claimed that the pandemic forced us to reduce our emissions and that this showed us that it is possible to reduce our energy consumption. Others mentioned experiencing more value in traveling domestically, in terms of exploring our own country and localities. One participant also mentioned, "*I was pretty conscious before the pandemic, but I saw the effect of the lockdown when the CO_2-emissions decreased. The pandemic was unfortunate, but also a fortunate concept*" (P19-M51). Two of the participants claimed that the pandemic itself has not increased their concern, and one said, "*It is rather reading climate reports than the pandemic that has increased my awareness*" (P21-F41).

The Optimists had a mutual understanding of the pandemic having a positive impact on the environment and climate change. "*Restraining human activity, travel frequency, and lockdown of the global society have contributed in a positive manner. We have been given the opportunity to think in new ways, like introducing online meetings, which may have contributed to less travel going forward*" (P18-M22). Another positive outcome of the pandemic was mentioned by one participant saying, "*Tourists have not visited countries with bad recycling facilities, which has contributed to less littering*" (P11-F27). In summary, most of the Optimists pointed at less travel, as a result of the pandemic, as a positive outcome. However, one participant believed that the positive effects would fade, "*the pandemic has had a very positive impact on the environment, but it is short-termed. Several countries are moving in the right direction, but not as much as needed*". He further argued, "*I believe that we have sharpened our grip, but I do not believe that we do enough or the right things to actually change*" (P1-M24). On the other hand, P19 meant that

business trips will not bounce back to pre-pandemic levels. "*I think that we have reached a new extreme. There will definitely be much more online meetings going forward, and people will experience that it works. However, grabbing a cup of coffee and communicating physically is hard to replace with online meetings*". Nevertheless, he persisted "*If I worked in the business-trip domain, I would be worried. I don't think it is coming back, I think there will be a radical change*" (P19-M51).

When asked to reflect on the similarities between the handling of the pandemic and the climate crisis, one participant said, "*The Norwegian government is too slow at responding and waits until the bitter end when it is too late*" (P1-M24). In connection to climate change in general, he said the following: "*I don't believe politicians are sincere, it seems like they wish to continue the growth, but keep a green profile to not lose voters*" (P1-M24). Other participants within this archetype mentioned collective responsibility as a similarity found in connection to both crises, "*It is the sum of all of our actions that matter*" (P18-M22). Another participant also argued, "*If everyone had been as committed to mitigating climate change as in mitigating the pandemic, we would be able to achieve more*" (P11-F27).

Altogether, the Optimists share the understanding that the pandemic has shown that it is possible to make radical changes and that we are able to mitigate climate change if we do "*whatever it takes*" (P19-M51), as has been done in relation to the pandemic. The Optimists also point to the importance of the government positioning the climate crisis at the top of the priority list in order to achieve the change we need. Additionally, they argue that people are adaptable to making changes when they have to. Hence, the Optimists believe that the government should employ stricter measures in order to mitigate climate change.

5.3.3 Average Joe

The Average Joes did not travel abroad during the pandemic, except for one individual traveling by plane to Denmark and Italy for leisure, and another to Germany to visit family. When asked about whether their travel habits changed during the pandemic, all Average Joes confirmed that it had. Due to the restrictions and lockdowns, most of them did not travel abroad and several canceled pre-booked flights to foreign destinations. "*I canceled a trip to Stockholm. But, I plan to travel as before when things go back to normal*" (P12-M25). One of the participants argued for his position at work as being the main motivation to not travel during the pandemic, "*Because of my*

position at work and how operationally crucial it is, I can't take any risks. I cannot risk ending up in quarantine in another country" (P8-M30). In relation to mode of transport, a few of the participants mentioned that they traveled more by train domestically during the pandemic than by plane, "*I rather take the train because it feels more spacious and I don't get in contact with that many people*" (P3-F25).

The Average Joes experienced varied levels of increased climate concerns in relation to their travels, as a result of the pandemic. One half of the archetype confirmed that they had become more aware during Covid-19, "*I think I have realized how much I can do with less traveling. The vacation experience does not need to be connected to travels abroad*" (P13-F25). Another one said, "*I have become more aware of the fact that I do not need as many trips during a year as before. I think that there could be a travel-quota to spread throughout the year*" (P7-F25). Additionally, one participant mentioned, "*I will be thinking it through more before traveling abroad again*" (P15-F64). On the other hand, a participant from the other half said, "*I feel that I was relatively enlightened before the pandemic*" (P8-M30).

Amongst the Average Joes the most prominent example of the positive impacts of the pandemic was the decreasing pollution connected to human activity: "*Pictures of clear skies in China and Italy due to reduced air traffic*" (P3-F25). Another participant also claimed to have spotted the positive effect on the environment, "*I have seen some news stories about rivers and natural areas getting cleaner, and in big cities, it also got cleaner due to lack of people and tourists. This gave people a reality check*" (P7-F25). P8-M30 mentioned "*I saw reports about dolphins in Firenze, less pollution, cleaner air, cleaner water, and less consumption in general*". However, he further argued, "*online shopping has grown substantially. People have more money to spend, throw-away culture is a big problem*" (P8-M30). Some of the participants in this archetype also claimed that the positive effect is only temporary because of the lockdowns. Additionally, one stated that "*I have not seen any effect*" (P12-M25).

Several of the Average Joes admitted that the climate change responsibilities lay on the authorities. Some similarities between the climate crisis and the handling of the pandemic were such as: "*us humans don't see further than our noses, we are very busy having a nice and wonderful time [...] that we don't see what is happening around us*" (P15-F64). Another pointed out that there's a lot of talking and not a lot of doing in both situations.

Furthermore, two participants added that if people have to change, they will, but that "*our brains are not built to change in relation to things other than immediate crises*" (P20-F52). Another participant pointed out a difference in how the two crises were portrayed in the media, and that the pandemic overtook the climate change headlines completely. Additionally, P3-F25 provided an explanation for why the pandemic was handled so quickly compared to the climate crisis as the latter "*doesn't impact the economy directly*". P13-M30 added that flights should be more expensive and that public transport should provide better alternatives for traveling.

The Average Joes reflected on whether the authorities could learn from the pandemic, and four participants were optimistic in that they hoped they could. "*The climate crisis is also a pandemic which impacts especially the less fortunate people in society, and as a wealthy nation, we have a responsibility to minimize the outcome*" (P3-F25). One participant questioned the use of similar restrictions as during the pandemic for the climate crisis but said that "*we are not a dictatorship, so one should be careful what you force people to do*" (P8-M30). Although many lessons could be taught from the pandemic, P20-F52 is "*unsure if the lessons will be used, because it would be so unpopular*". She gave the example of the difficulty of convincing people of a benefit they could not see, compared with the benefit of ending the pandemic.

In terms of changing their travel behavior, four participants said they would reduce their international travel after the pandemic. One participant said her family wanted to "*start a goal of only traveling outside of Norway once a year, [...] to reduce emissions, and when we do, to travel with more public transport and climate considerate ways*" (P3-F25). One also said she would reduce her travels, but mainly because she had become more aware of the use of time when it comes to traveling, wasting time at the airport, and that there would be far fewer work-related trips; she too did not feel the urge to make up for lost time from the pandemic. P7-F25 said she had gotten used to not traveling a lot, even though she does miss the trips she had before the pandemic. She continued to say that she rather uses her trips as a quota spread out throughout the year. Additionally, one participant mentioned she would be exploring Norway more now rather than other countries and would reduce her flight frequency if there were recommendations from the authorities to do so. On the other hand, two participants indicated they feel the need to travel again following the strict restrictions. One said the frequency would be the same as before, whereas the other had already planned three trips in 2022: "*We have had three years with holidays at home, so now it's time to get out*" (P8-M30).

5.3.4 The Free rider 🐎

The Free riders consisted of participants who frequently traveled internationally before the pandemic. Consequently, the number of journeys out of Europe became significantly lower during the pandemic (Figures 7 and 8). Three participants indicated they had explored Norway much more whilst others did not travel at all during the pandemic. Two participants also indicated that work trips were the most common category for them before the pandemic, something which was completely amended as a result of the global shutdown. One participant mentioned, "*it has not been possible to fly and very impractical and more expensive during the pandemic to fly, so there really hasn't been a point*" (P2-M27).

The participants were asked if they felt they had increased their climate concern during the pandemic, to which one responded "*one thing is if the pandemic had been driven by climate change [...], but the pandemic has nothing to do with climate change in my head*" (P9-M30), and another said it had the opposite effect, "*now it has been so calm for so long and traveled so little that one has saved up a little*" (P17-M25), and he felt that his trip to Greece in September 2021 was totally fine because of this. On the other hand, two participants said that it had increased their awareness a little by for example: "*you don't need to travel to Thailand, you can go to Lofoten, shorter [distance] trips, you don't need to go far*" (P2-M27). The other participant said he was made aware of the lack of smog in big cities.

Other examples were also given in terms of the effects of the pandemic on the climate. One mentioned that flight traffic had been reduced, another that mass production had decreased and reduced emissions. Less tourism, in general, was also mentioned, and people didn't have as strong a need to buy new things. However, one participant pointed out that there would have been natural disasters no matter what, and the effects were not likely to last.

When asked to compare the climate crisis with the pandemic, a few participants pointed out that when the authorities lay out restrictions, people tend to follow them without question (with the exception of a few protests). In Norway, one pointed out "*the trust [in the authorities] is high*", and thus easier to influence patterns of behavior. Nevertheless, a similarity was pointed out that the authorities have acted "*reactively and not proactively*" (P9-M30). Two others mentioned the pandemic as a more tangible and short-term issue, easier to see and deal with. Whereas the climate crisis, even though it is happening right now, the consequences are so far away. As such, P2-M27 said: "*it is hard for people to sacrifice their own comfort for something which is going to happen*

in 50 years". In this respect, two participants also referred to the difficulty of getting climate action on the political agenda, as "*politicians know they can end up in the 'Green Party [Miljøpartiet De Grønne]' boat, and then they will lose a lot of district voters, so I don't think the politicians have the guts*" (P17-M25).

Finally, participants were asked if they expected their travel habits to change when the pandemic is over. Two participants indicated they would definitely not reduce their international vacations, with one saying that "*I'm almost even more excited to travel now*!" (P16-F26) and the other "*there's a lot to experience which we haven't been able to in a while*" (P17-M25). He continued to explain that if it had been a global trend to stop traveling so much, he would follow, but since the world has become so globalized it is not very likely and added: "*The flights will leave either way and so will I*". Two participants said they would go back to how it was before the pandemic, and travel just as much. One said he gained awareness of the possibilities in Norway and did not feel the need to travel outside of the country as much as before (P9-M30). Nevertheless, he mentioned that it is "*[my] family tagging along which changes my travel habits, not my concern for the environment*". One participant said he would be willing to reduce his international holidays, but according to him: "*flights are not the biggest source of emissions, rather energy production and the meat industry which is worse*" (P2-M27). P16-F26 said that her conclusion is to "*keep traveling, and rather find other things to do for the environment*".

5.3.5 The Climate Denier ⃠

The Climate Deniers were seemingly not impacted by the pandemics' restrictions in the sense that one of the participants increased his travel frequency significantly in 2021. One participant did not travel at all, whereas the other continued his travels between Norway and Sweden as his family lives there. He did mention that he was going on far fewer work trips than before the pandemic. Both agreed that after the pandemic, holidays are a must, and thus must travel outside of Norway to do so, as such they were the only archetype to have traveled out of Europe during the pandemic (Figure 10). One pointed out: "*I want to travel more on holiday in the near future to make up for lost time*" (P6-M28). The same participant said "*[we have] accustomed new habits of video meetings and that works well for simple processes and short meetings*" (P6-M28) and saw that it is very unnecessary to fly to Bergen or Trondheim just for a meeting.

Neither respondent identified any increased climate awareness during the pandemic, although one mentioned increased media attention would have happened either way. Only one participant was able to give two brief examples of impacts on the climate as a result of the pandemic, with a mention of clear skies in Beijing, and less energy use overall. Neither interviewee had reflected on if the authorities could learn from the handling of the pandemic and translate it to the climate crisis.

6. Discussion

The discussion addresses the two research questions by combining the analysis of the five archetypes and the quantitative data with the relevant theories. The chapter is structured by each question, systematically discussing key themes and trends among the archetypes.

6.1 In what way do individuals' climate concerns of flight travel vary based on the perceived role they inhabit?

To explore how individuals' climate concerns of flight travel vary based on their perceived roles, it is first interesting to highlight how climate concerns and roles are connected. In this study, the climate concern of flight travel serves as a dependent variable affected by roles as an independent variable. As outlined in the theory chapter, when individuals enter a specific role, the expectations and responsibilities connected to it changes the perceived importance of climate change. As emphasized, roles are social constructs formed through expectations from society and entails specifications and guidelines for appropriate behavior. Once a person deviates from these predetermined norms, sanctions may be given from others within the social setting. This became apparent in several of our interviews, as many of the participants acknowledged that avoiding sanctions motivated their actions, in one way or the other. However, there seemed to be some variations between the archetypes in terms of which norms were most important to follow, as well as the motivation behind their actions. Nevertheless, all the archetypes acknowledged the aspect of roles influencing their climate concern and decision to travel.

As a human being, you can possess an inner motivation to be climate-friendly, which enforces the role of being a climate considerate citizen in many aspects of life. However, the same person inhabits several roles with different motivations activated, steering behavioral patterns in various situations. The archetypes indicated that the purpose of the trip impacted their affiliated climate concerns. Primarily the Optimists and Climate Activists mentioned that when traveling for leisure, they might act like climate-friendly citizens and avoid flying to their destination. Archetypes also weighed the purposes of their journeys differently: "*visiting someone is a purpose which is more reasonable [compared to holiday]*" (P7-M25). This Average Joe was not alone in terms of underlining how the purpose of the trip determines whether it is morally right or not, and how the purpose affects their level of climate concern when flying. Further, the Free riders

considered all purposes to be justifiable including travel for leisure, as two of them claimed it to be a crucial part of their identities. One also indicated that finally traveling on holiday with his family following three years of restrictions is well-deserved. The Climate Deniers do not feel any responsibility for the climate impacts connected to traveling, regardless of the purpose.

The Average Joes and Optimists, pointed to work-related trips and visitations to be more justifiable, as the purpose is not solely pleasure-based. For them, the expectations connected to their roles of being a good friend, family member, or employee are more important to fulfill. Additionally, one Climate Activist exemplified: "*If I were to travel to visit my sick mother-in-law I would have to. I can rather avoid business trips and leisure travels because it is not necessary*" (P14-F63). As such, in this case, her role as a daughter-in-law and the purpose of her trip, overthrows her inner desire to be a climate considerate citizen. How she expresses different levels of importance onto different roles also became clear in a different situation; Despite the expectations and responsibilities she has to travel abroad for conferences and other arrangements, she initiated a signature campaign at her workplace, with the goal being to stop work-related flights (P14-M63). Hence, accommodating her own values and expectations by acting consistently with her beliefs seems more important than obeying the norms and expectations at work. This shows how roles are not fixed but are flexible in terms of how individuals realize them based on their own individual beliefs and values, as seen in Levels 1 and 2 of the ACT-framework.

As Vatn (2015) claims, institutions are dependent on being continuously reproduced and when people start to challenge the norm, new norms may emerge. On this note, one participant welcomed stronger sanctions for climate-harmful activities, "*I think it is good that we feel flight-shame. It is about changing our habits, which is extremely hard on a large scale. Flight-shame is good PR. I have worked a lot with marketing and everything is about image. If something is not cool anymore, people won't do it*" (P19-M51). In this respect, a Free rider mentioned experiencing flight shame, only because someone called her out on it. Similarly, one Average Joe explained how she changed her travel habits because her friends criticized her for flying between Oslo and Bergen. These represent clear examples of the power of sanctions and the emergence of norms.

Ryan and Deci's (2000) SDT can be used to explore how norms and personality traits motivate actions. As such, it also defines the expectations and motivations leading to the realization of roles. When examining the personality traits and evaluating the motivations behind the archetypes' climate-friendly behavior, substantial differences appeared. On one hand, the

Climate Activists seemed to be more intrinsically motivated toward performing climate-friendly activities. This is based on the results from the values questionnaire, with their average environmental value score of 1.2 and a self-transcendence score of 1.8 (Figure 3). These results reveal strong internal values, which may suggest a prominent inner motivation guiding their climate-friendly behavior. On the other hand, when the Climate Deniers perform climate-friendly activities they are not intrinsically motivated, but dependent on external factors to motivate their actions. Their scores for both self-enhancement and self-transcendence at 2.5, and environmental value at 4.7 support this claim (Figure 3). This understanding is strengthened by the observation that one of the Climate Deniers claimed to recycle only because of social aspects, "*it is the collective joy that motivates me to do it [not the environment]*" (P6-M28). However, the joy he gets from recycling might align with his internal desire to get approval from others. Nevertheless, as Ryan and Deci (2000) would argue, the climate-friendly activity itself is not enforced by an intrinsic motivation to be climate considerate. Rather to avoid sanctions from his social circles, as Opp (2018) explains as herding. Hence, he is extrinsically motivated because he internalized the norm independently of the underlying objective of recycling.

On the contrary, van der Werff et al. (2013) would argue that the Climate Denier experienced obligation-based intrinsic motivation. Because of his internal motivation to fit into his social circle, he gained the feeling of joy when acting according to the rest. As such, van der Werff et al. (2013) argue that it is the strength of morality that steers behavior, which is why they refer to it as *intrinsic*, similarly reflected in Schwartz's (1977) definition of personal norms. Nevertheless, the level of intrinsic motivation is, by Ryan and Deci's definition, weak; and the use of the term is controversial. Whenever you feel obliged to perform an activity, there are external factors involved, determining right or wrong. Additionally, what is considered to be beneficial for others is determined by norms, rules, and conventions, making this a matter of extrinsic motivation. Thus, from an institutionalist perspective, one could question whether it is possible that some actions are solely intrinsically motivated because institutions influence nearly all aspects of our social lives.

As a result of all the roles inhabiting different expectations, responsibilities, and motivations several of the participants claimed to have experienced role conflicts in relation to traveling, leading to social dilemmas and cognitive dissonance: "*My friends want to bring me on vacation, but I am not always keen to fly. That can be difficult*" (P18-M22). This Optimist further

claimed that being a good friend often ends up being the most important for him in those social dilemmas, and he ends up flying anyway. Additionally, an Average Joe (P20-F52) experienced role conflict in her decision to travel to the US versus feeling the need to accommodate her concern for the climate. As Biel and Thøgersen (2007) suggested, some tend to apply defense strategies when in a moral conflict or in a social dilemma to justify their actions and reduce cognitive dissonance. This strategy is exemplified by the Optimist who expressed that being a friend outweighed his personal concern for the climate. Another example was seen by a Climate Activist pointing out that some of the people who decide to travel more after the pandemic, will use the excuse of saving businesses and accelerating tourism to justify their trips. Additionally, P10-F29 and P16-F26 pointed to the importance of gaining cultural understanding as a valid reason to fly out of Norway. Often defense strategies also involve claiming that individual action will not make a difference anyway, which several of the Free riders and Climate Deniers argued. One of the Free riders expressed that: "*Individuals mean nothing, it is the collective which means something in these questions, and the collective has to be forced to change together*"(P9-M30). As such, claiming that his and other individuals' actions do not matter was an argument used as a defense strategy.

Another conflict and trigger of cognitive dissonance is the attitude-behavior-gap. The gap between climate concerns and flying is not a new phenomenon and it has been detected by previous research concerning Norwegian's travel habits. One study found that even though Norwegians are aware of flying being harmful to the climate, they are not willing to restrain from it. The report showed that flying is considered to be the hardest thing to sacrifice when changing habits to become more climate concerned (Dæhlen, 2018). Looking at ACT-framework (Figure 1) to interpret findings, the attitude-behavior gap becomes visible. Many of the participants had strong climate-related beliefs and personal norms in Level 2, but it was a mismatch between their traveling behavior detected in Level 3 and changes in flying behavior in Level 4. The Optimists stood out by having a substantial attitude-behavior-gap connected to their level of climate concern and their actual travel behavior. As indicated by P19-M51, "*I am in a phase in my life where I feel discomfort because I live a life that is not connected to my beliefs. I know that my actions are bad but I do it anyway and get a bad feeling from it*". The Optimists had an average environmental value score of 2.4 (Figure 3) suggesting strong individual beliefs in Level 2. Even so, their average number of trips in 2018 was 9.2 (Figure 9), which shows a significant attitude-behavior gap to

Level 3. Their strong climate beliefs and personal norms in Level 2 and their significant travel frequency in Level 3, made the gap clear. Nevertheless, the Optimists acknowledged the issue and aspired to mitigate the gap going forward, insinuating a change in traveling behavior in Level 4.

It is important to understand the participants' perspectives on what others think of them as this influences their actions and may cause conflict between their attitude and behavior. As such, all participants were asked how their social circles would react to them not traveling by plane ever again. There are some prominent differences between the answers from each archetype, which seemingly fit their characteristics and personality traits overall. The Climate Deniers, Free riders, and Average Joes expressed they would receive negative reactions from their social circles and mentioned that they would be shocked or think that it was a joke. Additionally, these three archetypes mentioned the loss of leisure travel as a consequence of not traveling by plane, which they were not willing to sacrifice. Only one participant from the Average Joes claimed that she would get a positive reaction from her social circle saying, "*good for you*" (P15-F64). On the contrary, the Climate Activists and the Optimists expressed feelings of encouragement occurring in their social circles and mentioned how some would be impressed and praise their decision. However, they claimed that they would get mixed reactions from some friends and family being skeptical and disappointed. Nevertheless, the Climate Activists and the Optimists communicated a more positive attitude towards the idea of never flying than the remaining archetypes. Nonetheless, the majority of the participants agreed that giving up flying is not desirable, and several did not consider it to be a realistic option. This was clearly stated by an Optimist saying: "*I believe that even though you are a climate activist, you would say that it is enough to fly less instead of never doing it again. Most people would think that it is an extreme choice*" (P1-M24).

As social psychology and institutional theory suggest, norms have a strong impact on our behavior. They lay the foundation for the expectations and responsibilities connected to the roles we perform, motivating our actions in different situations. From our results, one could suggest that the individuals hold the expectations and responsibilities connected to different roles accountable for their decisions to travel by plane. Even though they know the climate impact of flying and can decide to abstain from it, they tend to rely on the importance of fulfilling their roles instead. Hence, blaming roles is a defense strategy justifying their actions. Whether this helps reduce the cognitive dissonance caused by the attitude-behavior-gap is not easy to determine. However, there was an

apparent understanding amongst the majority of our participants that this gap existed and several wanted to close it.

6.2 Has the Covid-19 pandemic impacted individuals' motivations and climate concerns of traveling by plane?

The pandemic had a clear impact on global travel patterns, with significantly fewer international flights and the closing of national borders (Eliasson, 2022); Our material indicates that Norway is not an exception. As with previous epidemics and economic crises, such as smallpox and the financial crash in 2008 and 2009, the reduced industrial activity resulted in a drastic reduction in emissions (Henriques, 2020). However, the emissions in all cases bounced back when the economy recovered.

Before the pandemic, the Optimists had one of the highest frequency of trips, mostly due to the one Optimist who traveled substantially for work, and the other who flew frequently to London (Figure 9). They were followed by the Free riders who had the second-highest number of average trips and the highest number of leisure trips and visitations in 2018 (Figure 10a). Our material also showed a significant reduction in international leisure trips for most of the archetypes, as well as much fewer trips outside of Europe (Figure 10b). It is fair to mention, as Shamshiripour et al. (2020) also state, that the reduction in flight frequency does not stem from increased climate concern during the pandemic; rather it is an unintentional positive consequence of the pandemic. For example, one Average Joe mentioned needing more space to avoid infection and thus taking the train instead of flying. Nevertheless, business trips were the hardest hit travel category (Appendix F). This was also confirmed by the participants, who all stated that most work trips abroad had been canceled and moved online, which explains the drastic reduction in the Optimists' work-related trips. The reductions in work trips also shows the location changing from in and out of Europe to only Scandinavia and domestic trips (Figure 10). This depends on the participant's field of work, and whether work trips are common or not, as several of the participants are still students. The discrepancy in the study population may also influence the trends, as the distribution of students among the archetypes is uneven. The Climate Deniers deviated from the observed trends in the other archetypes, as they were the only ones who increased their frequency of trips during the pandemic.

The travel patterns reflect the values explored in each archetype. The Climate Deniers have the strongest self-enhancing values, and the weakest environmental value score (Figure 3). This shows a clear example that although there were restrictions on traveling, the Climate Deniers prioritized their travel habits[5]. It can be argued that self-transcendence and self-enhancement values reflect individual behavioral patterns. The Activists, Optimists, Average Joes, and Free riders all had stronger self-transcendence scores than the Climate Deniers. This corresponds with their equal reduction in travel frequency. However, it is not possible to determine whether these two variables are entirely correlated.

The pandemic seems to have been the basis for establishing several new norms, especially when it comes to travel. Schwartz's (1977) norm activation theory could help explain how norms have been activated and internalized during the pandemic. An article in Forbes addressed how the use of videoconferencing and virtual meetings has flourished and replaced a significant number of physical meetings. The article showed lower frequencies of business trips and suggested that boomerang trips[6] will be gone forever (Kelleher, 2022). This was reiterated by one Optimist: "*If I worked in the business-trip domain, I would be worried. I don't think it is coming back, I think there will be a radical change*" (P19-M51). This exemplifies how new habits can prompt the emergence of new norms, leading to change in behavior. However, it is important to consider if the changes during the pandemic are here to stay and if they will have an impact on climate concerns.

The Covid-19 pandemic is a key factor changing travel habits but will not necessarily increase climate concern. Henriques (2020) points to the force of habit among individuals and mentions that interventions are more effective when they take place during moments of change. Norwegians have been seen to travel regardless of their concern for the climate (Dæhlen, 2018); which showed true for some of the participants in this study, but the pandemic could be a catalyst for change. Changing core values will, as mentioned, take time. Both ACT-datasets from 2018 and 2021 were included to see if there had been any noticeable changes already from before- to mid-pandemic in the larger sample. As seen in Appendix G(a, b and c) there was, as expected, very little change as it is too soon to determine whether the pandemic will impact individuals core values.

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[5] See Figure 10a and 10b.

[6] Boomerang trips are one day round-trips to a certain destination.

Árnadóttir et al. (2021) elaborates on the barriers to changing flight-related behavior in the long-run, which include lack of awareness and information about the severity of the crisis. Several respondents indicated that they had observed media coverage on the climate impacts of the pandemic, which increased their overall climate awareness during the pandemic. This included one of the Climate Deniers who had been made more aware of the urgency of the climate issue. This, however, was arguably not a consequence of the pandemic itself but rather due to the timing of several global climate reports being released, such as the UNFCCC[7] report in 2021.

Furthermore, Hochachka (2020) mentions that there is a difference between the pandemic and the climate crisis. The former is something concrete and short-term, whilst the latter has intangible consequences and is therefore harder to adjust to. An Optimist pointed to the fact that humans are not able to change unless it is in a crisis situation. This stresses the issue that many (especially the Climate Deniers, Free riders, and Average Joes) do not consider climate change to be an urgent crisis. When asked if they thought politicians could learn from the pandemic, as Botzen et al. (2020) claimed, two Average Joes elaborated on how politicians only think short-term in order to get re-elected. However, it is long-term efforts that are needed to make a change. The lack of direct rewards reduces the extrinsic motivation for individuals to engage in the climate debate. As an Average Joe indicated, if people need to change, they will, but they need to be forced to do so (P20-F52). This seems to be a common understanding among the participants claiming that decisions from politicians are needed to initiate a green change.

All of the Optimists referred to the positive consequences for the climate, caused by the restrictions during pandemic. They indicated examples such as "*Restraining human activity, travel frequency, and lockdown of the global society [...]. We have been given the opportunity to think in new ways, like introducing online meetings, which may have contributed to less travel going forward*" (P18-M22). The Free riders, on the other hand, rather pointed to negative consequences the restrictions had on their travel habits. They argued that there should be limits to what the authorities can control, in terms of traveling and expressed they wanted to travel more when the pandemic is over. Two Free riders shared their excitement for already planned trips and indicated travel as an important part of their identity (P2 and P16). Additionally, another Free rider (P10-F29) mentioned she was not willing to change her travel behavior if it would harm her relationship with her friends. As such, de Groot et al. (2021) claim that individuals with weak moral compass

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[7] United Nations Framework Convention on Climate Change.

(such as the Climate Deniers and the Free riders) are more easily targeted by social norm interventions to enhance pro-environmental behavior. Hence, if they were to change their travel habits, they are dependent on their social circles sanctioning their behavior. Furthermore, there have been claims by both Optimists and Climate Activists that they have become more appreciative of domestic travel, and do not feel the same urge to travel abroad. This aligns with van der Werff et al.'s (2013) claims that individuals with strong environmental self-identity are more likely to feel morally obliged to perform pro-environmental behaviors. As such, it can be argued that it is more likely that the Optimists and the Climate Activists will see a lasting change in their travel habits after the pandemic. Hence, there are varying perspectives between the archetypes in terms of future travel habits and their willingness to change.

To try to make sense of the impact the pandemic has had on motivations and climate concerns of traveling by plane it is helpful to return to the ACT-framework in Figure 1. The abovementioned archetypes' core values relate to the first level, followed by the issue specific social context of climate change and the pandemic. These both impact the participants' travel habits during the pandemic explored in Level 3. The first three levels explain how individuals choose to fulfill the expectations and motivations of certain roles. Because people inhabit many different roles simultaneously, it is up to the individual to decide which expectations are the most important to accommodate. This may determine if individuals will change their travel behavior in the long run (Level 4).

It is not possible to conclude whether there exists a relationship between the level of climate concern and flight frequency as not enough time has passed since the world began its reopening. Furthermore, the reduction in flights is not due to climate concern, but rather countless other pandemic-related consequences, such as fear of infection, lockdowns, and economic hardship. However, it is possible that these events have constructed new norms of traveling, as seen for example with P20-F52 who expressed her realization of the time she wasted at the airport and will adjust her travel habits accordingly. Additionally, one Average Joe traveled a lot by train during the pandemic due to fear of infection and discovered this to be a more comfortable way of traveling. As such, it is not possible to determine individuals' moral compass and decisions to travel solely based on their climate concern, as there are multiple factors involved.

What we can conclude however, is that the pandemic has proved that new norms can quickly emerge. Following Coleman's (1964) theory of norm emergence, new habits and norms

of online meetings may cause a long-term change in work-related travel. The reduced flights have lowered emissions and eased the environmental burden, however changing climate concerns will take much longer. A lasting shift in behavior can happen through an institutional change in the form of emerging norms (Árnadóttir et al., 2021), but it remains to be seen if these will be internalized and persist into everyday life.

7. Conclusion

The main aim of this thesis was to understand the underlying principles of Norwegians' climate concerns when traveling by plane. In order to explore the aim of the study, the following two research questions were investigated: *In what way do individuals' climate concerns of flight travel vary based on the perceived role they inhabit?* and *Has the Covid-19 pandemic impacted individuals' motivations and climate concerns of traveling by plane?* The study had a mixed-methods approach, using semi-structured interviews and a quantitative values questionnaire, of 22 Norwegians. An archetype analysis was done following the interviews, categorizing participants based on similarities of their perceived climate concern and climate-friendly behavior, resulting in five groups: The Climate Denier, the Free rider, the Average Joe, the Optimist, and the Climate Activist. Combining the quantitative results with the archetypes, it became evident that our objective understanding fit the interviewees values.

The objective of the first research question was to examine how roles impact the level of climate concern individuals feel towards flight travel. First of all, it is clear that roles do have an impact on the level of climate concern in various settings. The expectations and responsibilities roles represent guides behavior and influences traveling choices. The difference can be found between the archetypes in the level of importance they impose in meeting these expectations and responsibilities. This is an indication of how an individual's moral compass determines how they will adhere to the predetermined expectations of a role or choose to follow their own morals. Hence, the realization of roles is not solely externally influenced but also dependent on internal values and beliefs.

The Climate Activists demonstrated high concern for the climate and behaved accordingly. They inhabit a strong moral compass to behave in a harmless way and being climate considerate serves as a part of their identity. They are therefore more willing to travel less regardless of purposes and will avoid flying as much as possible. The Optimists also showed high concern for the climate, however, experienced some cognitive dissonance and a gap between their attitudes and their traveling behavior. They are more willing to travel less for purposes that are solely pleasure-based, but when confronted with travel choices, they express that they still prefer flying. Nevertheless, the Optimists' awareness of the existence of this gap triggered aspirations to become more aligned with their inner beliefs and values in the future. They find motivation to act in

climate-friendly ways within their social circles, but additionally draw on their values and beliefs as an inner motivation for their actions.

The Average Joes were also aware of climate change and expressed concerns but dismissed most responsibility for individual actions. They are satisfied with contributing through low-threshold measures like recycling, as they are acting according to social norms. In addition, they do not feel the need to change their travel habits and consider leisure travel being important enough to justify traveling by plane. Still, they would readily dismiss work-related trips for the climate. The Free riders also acknowledged climate change as an issue, but ascribed responsibility to the authorities, and felt that their individual behavior is irrelevant. Additionally, changing travel habits after the pandemic to reduce their own climate impact was not a desired option and they want to proceed as usual going forward. Lastly, the Climate Deniers disregarded human involvement in climate change and showed no concern for their choice of transport and no intent to change for the future, regardless of purpose. When performing climate-friendly activities they are solely motivated by social aspects and following the norm to avoid sanctions represents the main reason for doing it.

As for the second research question, the change in travel frequency during the pandemic for all the archetypes was made clear. Following the steps of the ACT-framework, the impact of the pandemic on climate concern in the archetypes was less prominent in Level 3 and 4. The Climate Activists stated they were already concerned for the climate, and that the climate impacts of the pandemic only strengthened their beliefs. Some Optimists mentioned they had read more about the crisis during the pandemic and were therefore more aware of it, whilst others revealed they had not really changed. Nevertheless, most of them indicated they would reconsider their next journeys when the travel-restrictions are lifted. The Average Joes said that the pandemic had not impacted their concern for the climate, and several indicated they intended to travel just as much as before. The Free riders stated they were excited to travel even more, and some indicated they would rather find other ways to compensate for their climate footprint. Finally, both Climate Deniers also indicated they would travel the same as before the pandemic. However, one mentioned he had been more exposed to issues regarding the climate crisis during the last few years, indicating that he was made more aware than before.

The quantitative ACT-data from the values questionnaire provided a more representative sample for us to compare with our quantitative results. The larger samples from the ACT-project

showed a clear trend across the ages. The older the population gets, the stronger environmental values- and less self-enhancing values they have. This showed true in our data as well, however it is not comparable to the ACT-dataset, and the size of the study sample and unevenly distributed age groups limit the validity of the trend.

The study has indicated a clear connection between roles and individuals' travel habits, which can be used as a starting point for further research in the field. Nevertheless, it is difficult to isolate the impact of roles on perceived climate concern, as we have seen there are countless other elements to account for. The same applies for the level of climate concern and climate-friendly behavior, as the two variables do not always concur. Considering the major limitation of the age distribution in the study population, the results indicate the potential for a larger study sample with a better age distribution. The small sample size made the creation of archetypes difficult. There were more gray zones between the participants and some groups only ended up with two participants - thus not entirely representative of people with similar beliefs. The weak age distribution impacts the trustworthiness and representativity of the study, as well as the reliability of the conclusions made. As the pandemic is not entirely over, future research could explore the changes in climate concern and travel habits in the years following the pandemic, as there are still global travel restrictions. Furthermore, the social psychology and institutionalist aspect of this study could provide further insight to policy developers to find the best way to nudge institutional changes towards more pro-environmental behaviors. As our study participants indicated that speed and affordability was a key factor in their decisions to travel, further studies could examine consumers' price elasticity of taking trains instead of flight. This could explore to what extent individuals will go to travel cheaply instead of with climate concern.

In sum, there are significant barriers to changing travel behavior. Using the pandemic as a catalyst for institutional change could indicate a potential for lasting change in climate concern. Nevertheless, the only category of travel which will most likely see a long-lasting change are business trips, as new norms and habits have already emerged. These reinvent the expectations of roles, and therefore changes behavior. Evidently, regardless of the level of climate concern, our participants always seem to find a justification for taking *just one more flight.*

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Appendix (Supplementary Material)

Appendix A: LinkedIn post for recruitment

🤔"In what way do individuals' climate concerns of flight travels vary based on the perceived role they inhabit?" og "Has the Covid-19 pandemic impacted individuals' motivations and climate considerations of traveling by plane?" 🌍

Ikke vet jeg, men jeg og Marie Westerby ønsker å finne ut mer om det! Vi håper derfor at noen fra vårt nettverk ønsker å stille til intervju i forbindelse med vår masteroppgave for NMBU - Norwegian University of Life Sciences 🧑‍🎓

⭐ Vi ser etter deg som har reist til utlandet i løpet av de siste 4 årene, er norsk og over 22 år ✈️

👉 Ønsker du å delta, kjenner noen som du tror vil delta, eller vil du vite mer om prosjektet, ta kontakt eller registrer din deltakelse i linken under:
https://lnkd.in/dkahFSci ✅

See translation

You and 37 others   2 comments · 2 shares

Appendix B: Interview guide (In Norwegian)

Hei!

Er det greit at jeg tar opp intervjuet? Du har også anneldnging til å stoppe intervjuet når som helst, hvis du ikke vil svare mer.

DELTAKER NR:

Level 1

1. Hvor gammel er du?
2. Hvilken kommune bor du i?
3. Bor du alene eller sammen med noen?
4. Hva er sivilstatusen din?
5. Har du barn?
6. Har du hatt inntektsgivende arbeid i løpet av de siste 24 månedene?
   Hvis ja, hvilken bransje?
   Hva jobber du med?
7. Er du student?
   Hvis ja, hva studerer du?
8. Hindrer økonomi- eller andre faktorer deg i å reise så mye som du egentlig vil? Eventuelt måten du reiser på?

Level 4

1. Hva betyr feriereiser for deg? (Slappe av, utforske, kultur etc.)
2. Kan du liste opp utenlandsreisene du har hatt de siste 4 årene? (Start med 2021 og gå bakover til 2018)
3. Vi ser på tre "vanlige" kategorier av reiser: jobb, ferie og besøksreiser. Kan du tenke på andre kategorier reisene dine hører til?
   - Av de reisene du har hatt i løpet av de siste 4 årene, hvilken kategori er den hyppigste?
   - Hva med den nest-hyppigste?
4. Hva er ditt foretrukne reisemiddel når du reiser til utlandet? Hvorfor?
   - Endrer dette seg i forbindelse med formålet med reisen?(Altså kategori?
   - venner/jobb/familie/ ferie?
   - Eventuelt hvor langt du reiser?
5. Hvor lenge bruker du å være i utlandet sammenhengende?
6. (Hvor mange ganger i året har du reist til utlandet i løpet av pandemien?) - *hvis ikke svart allerede.*
7. Har reisevanene dine endret seg etter/ med / i korona?
   - Har det endret hvor du reiser? (Mer innenlands/utenlands?)
   - Har det endret hvor ofte du reiser?
   - Har det endret hvorfor du reiser? (Formålet med reisen)
   - Har det endret måten du reiser på? (Bil/fly/tog/buss/båt osv.)

8. Det er mange flyselskaper som nå tilbyr klimakompensasjon for flyreisen man bestiller. Dette tilsvarer en ekstra utgift, men gir deg en mulighet til å kompensere for klimaeffekten av reisen din. Er dette noe du legger til i din bestilling når du skal bestille flyreiser?
   - Hvis ja: hva er begrunnelsen/eller hvorfor gjør du dette?
   - Hvis nei: Hvorfor ikke?

Level 2

1. Mener du klimaendringene skjer?
2. Er de isåfall menneskeskapte?
3. I hvilken grad er du bekymret for klimaendringene? Hvor ofte tenker du på det?
4. Føler du et ansvar for å redusere egne klimagassutslipp?
5. Tror du at enkeltpersoner kan gjøre tiltak som vil redusere klimagassutslippene?
   - Hvis ja: hvilke tiltak mener du at du som enkeltperson kan gjøre for å redusere egne utslipp?
   - Hvis nei: Hvorfor ikke? Hvem har da ansvaret?

6. Får du dårlig samvittighet om du ikke reduserer dine egne klimagassutslipp?

7. Har du noen vaner har du som bidrar positivt til miljøet? (f.eks panting, resirkulering, energisparing, vegetarianer)

Omgangskrets
1. Snakker du om klimaendringer med din omgangskrets?
   - Hvis ja: Hvilke tema snakker dere om da?
   - Er dette ulikt når du snakker med venner, familie og kolleger? I såfall, hvordan?
2. Mener du at folk i din omgangskrets er klimabevisste?
   - Hvis ja: på hvilken måte?
3. Tror du at folk i din omgangskrets mener at du er klimabevisst?
   - Endrer oppfatningen seg basert på hvilken omgangskrets du er i? (Jobb / familie / venner
   - Føler du at denne oppfatningen stemmer?
4. Føler du at omgangskretsen din har forventinger til hvordan din atferd påvirker klima/miljø? (hvorvidt du tar klima hensyn) på hvilken måte?
   - Er dette ulikt i de forskjellige omgangskretsene dine? (kolleger,venner,familie)
5. Føler du noen gang konflikt mellom de forventningene omgangskretsen din har til deg og de forventninger du har til deg selv når det gjelder miljøbevissthet? (Rollekonflikt)
   - Hvis ja, i hvilke situasjon har dette oppstått?
   - Har det noen gang oppstått diskusjoner/uenigheter om klimaspørsmål i din omgangskrets?
   - Hvis ja, kan du fortelle om situasjonen?

Level 3

1. Hva er de viktigste det viktigste med å reise til utlandet for deg? (Ny input, inspirasjon, kultur, mennesker)

2. Er du bevisst på forskjellen av utslippene knyttet til forskjellige reisemåter? (altså tog vs. fly for eksempel)

   Påvirker det måten du reiser på?

3. Føler du ansvar for å være miljøbevisst når du reiser?
4. Endrer ansvaret du føler ift. klima seg basert på formålet med reisen? (kategori av reise)
   - Eventuelt hvor langt du skal reise eller hvor lenge du skal være borte?
   - Hvis ja: Kan du gi et eksempel på når du følte på det ansvaret og hvilken reise du var på da?

Omgangskrets
1. Hvorvidt er det vanlig at noen fra din omgangskrets drar til utlandet noen ganger i løpet av et år?
2. Føler du noen forventninger fra din omgangskrets til å reise til utlandet i løpet av et år?
3. Snakker du med din omgangskrets om å reise mer miljøvennlig? F.x. med tog?
4. Hva snakker dere om da?
5. Påvirker det dine reisevalg i forbindelse med utenlandsreiser?
6. Synes du det er viktig at familien/ vennene dine/ jobben din/ andre omgangskretser endrer måten de reiser på for å redusere klimagassutslippene? (spør om individuelle kategorier)
   - Hvorfor/hvorfor ikke?
7. Føler du noen form for skam når du reiser med fly?
   - Har det noe å si hva formålet med reisen er? Eventuelt avstanden du reiser eller hvor lenge du skal være borte?
   - Har du diskutert det med dine kolleger, familie eller venner?

Post - COVID
1. Føler du at pandemien har endret miljøbevisstheten din tilknyttet reiser?
   - Hvis ja: hvordan?
   - Hvis nei: hvorfor ikke?
2. Vi snakket tidligere om hvilken reise kategori var den hyppigste for deg, tror du at denne vil endre seg etter pandemien?
3. Ettersom det har vært reiserestriksjoner under pandemien, har det ført til at du kommer til å endre måten eller hvor mye du reiser når pandemien er over?
4. Har du sett at pandemien har påvirket miljøet på en positiv eller negativ måte?
   - Hvis ja, kan du gi noen eksempler?
5. Kunne du tenke deg å trappe ned på feriereiser for å redusere eget klimagassutslipp?
   - Evt måten du reiser på? Hvorfor / Hvorfor ikke?
   - Hvis nei: hvorfor ikke?
6. Ser du noen likheter mellom håndteringen av pandemien og klimakrisen?
7. Tror du at politikere/myndigheter kan ta lærdom fra håndteringen av pandemien og overføre det til håndteringen av klimakrisen?

Til slutt, vil jeg gjerne at du skal forestille deg en situasjon hvor du våkner opp en dag og du har plutselig bestemt deg for å aldri reise med fly igjen - hva tror du at din familie og venner ville sagt? Hvordan ville de reagert

*Er det noe annet du ønsker å tilføye, eller noe du ønsker å utdype?*

Appendix C: Values questionnaire distributed to all interviewees. Statements 1 to 4 refer to the participants' self-enhancement values, 5 to 7 on environmental values, and 8 and 9 on self-transcendence values.

|	Very much like me	Like me	Somewhat like me	A little like me	Not like me	Not like me at all	Don't know
Value score	**= 1**	**= 2**	**= 3**	**= 4**	**= 5**	**= 6**	**Ignored**
1. Han er på utkikk etter eventyr og liker å ta sjanser. Han vil gjerne ha et spennende liv *'She looks for adventure and likes to take risks. She wants to have an exciting life'*							
2. Det er viktig for han å være rik. Han vil ha mye penger og kostbare ting *'It's important for her to be rich. She wants a lot of money and expensive things'*							
3. Det er viktig for han å være vellykket. Han håper at andre vil anerkjenne det han oppnår *'Being successful is important to her. She hopes that people will recognize her achievements'*							
4. Det er viktig for han å ha det moro. Han liker å "skjemme seg bort" *'Having a good time is important to her. She likes to spoil herself'*							
5. Han mener sterkt at folk skal respektere jorden. Mennesker skal leve i harmoni med andre arter *'She strongly believes that people should respect the earth. Humans should live in harmony with other species'*							
6. Han er overbevist om at folk bør verne om miljøet. Det er viktig for han å sikre bærekraft for fremtidige generasjoner							

|							
'She strongly believes that people should care for nature. It is important for her to ensure sustain-ability for future generations'							
7. Å forebygge forurensning er viktig for han. Han mener sterkt at folk skal beskytte naturressursene *'Preventing pollution is very important to her. She strongly believes that people should protect natural resources'*							
8. Det er viktig for han å alltid oppføre seg ordentlig. Han vil unngå å gjøre noe som folk vil si er galt *'It is important for her to always behave prop-erly. She wants to avoid doing anything that people would say is wrong'*							
9. Han synes det er viktig at alle mennesker i verden behandles likt. Han mener at alle bør ha like muligheter i livet *'She thinks it is important that every person in the world should be treated equally. She believes everyone should have equal opportunities in life'*							

Appendix D: Average value score per participant from our data material, sorted by archetype. Scores range from 1 to 6 where 1 = "very much like me" and 6 = "not like me at all".
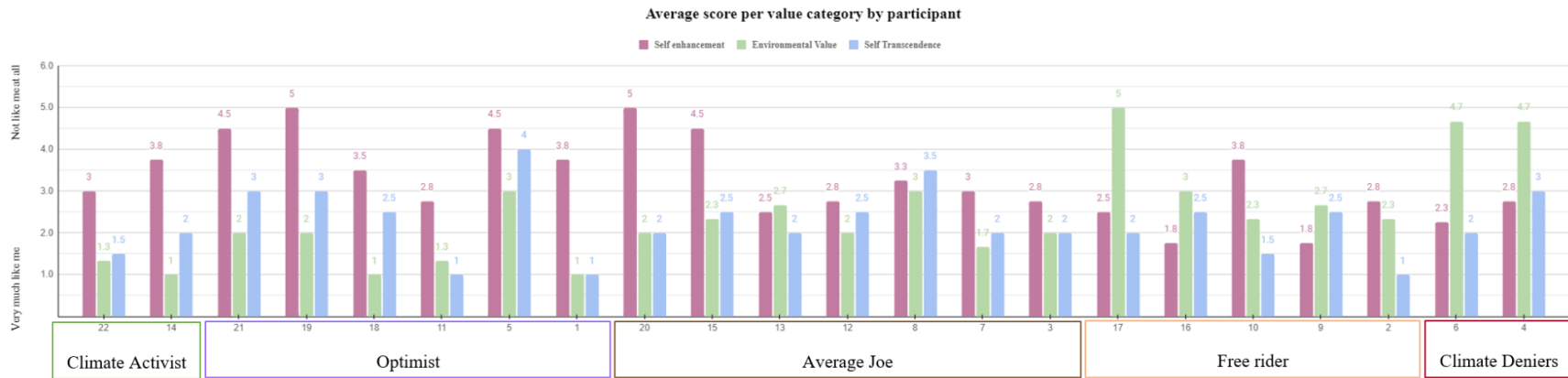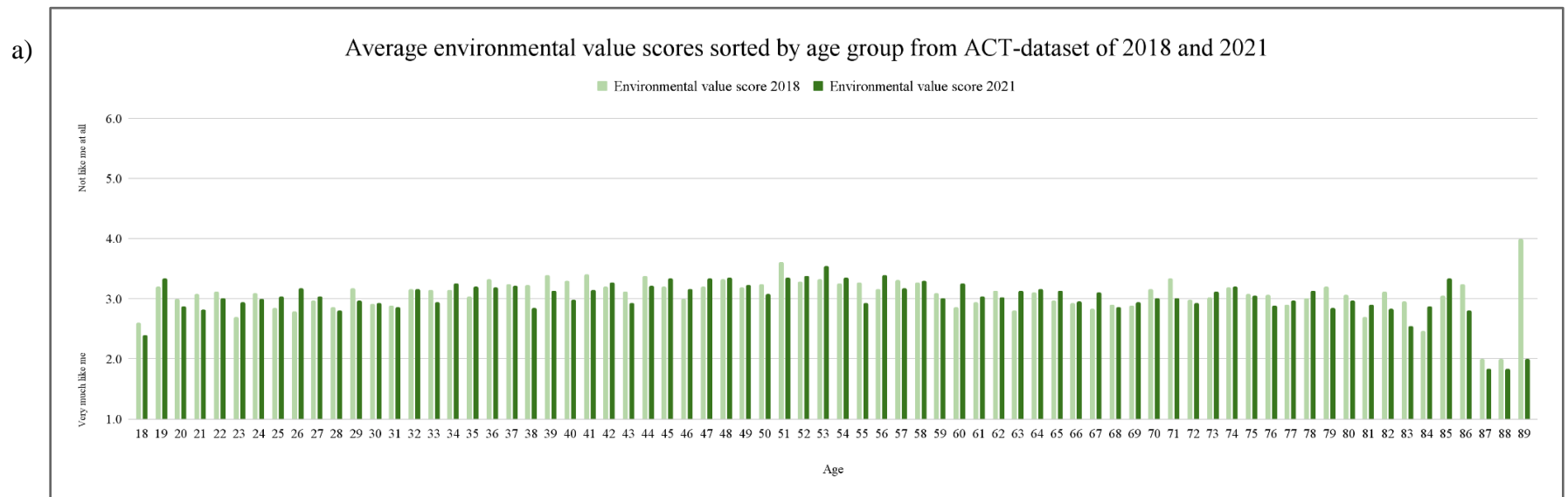

Appendix E: Average self-transcendence scores by age comparing ACT-data 2021 with this study's 22 participants in 2022.
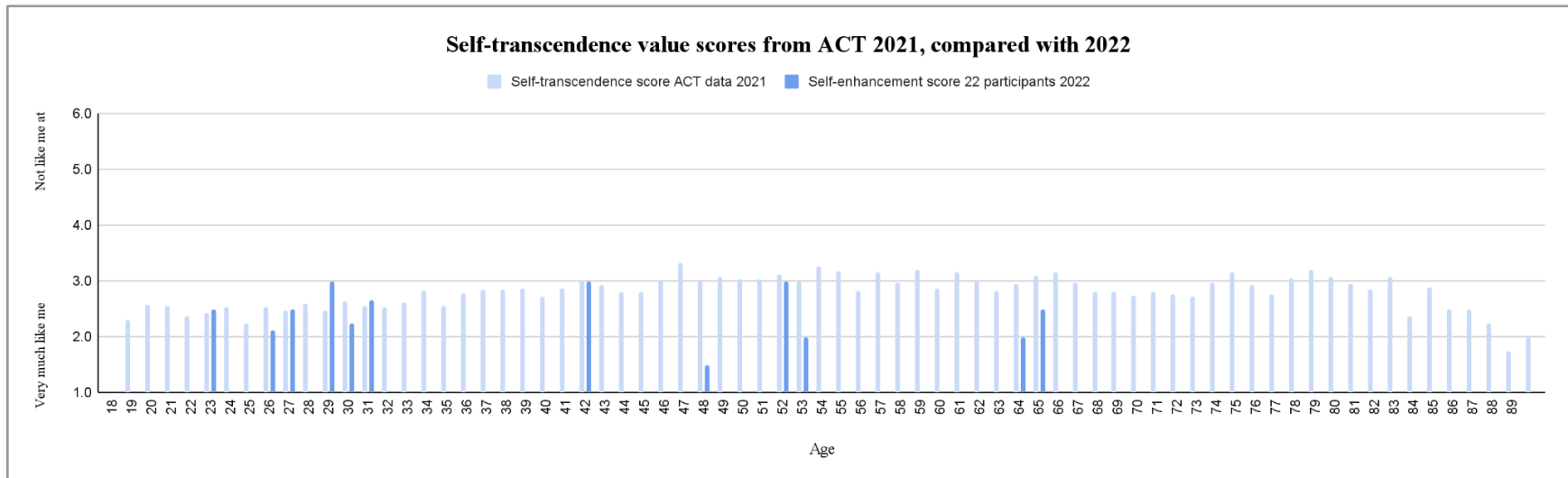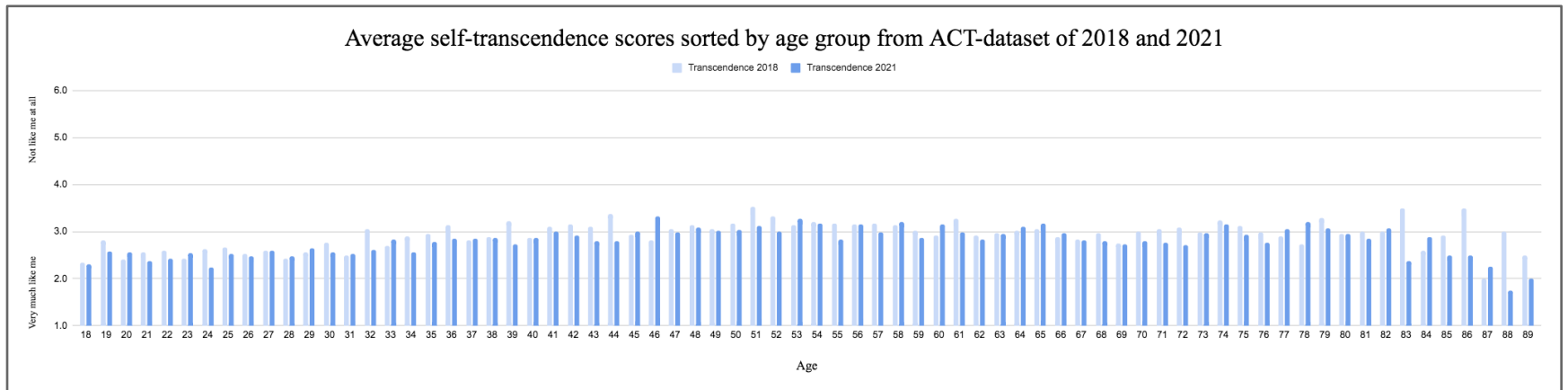
Appendix F: Number of trips by plane for work in 2018(a) and 2021(b).

a)

Number of trips for work 2018
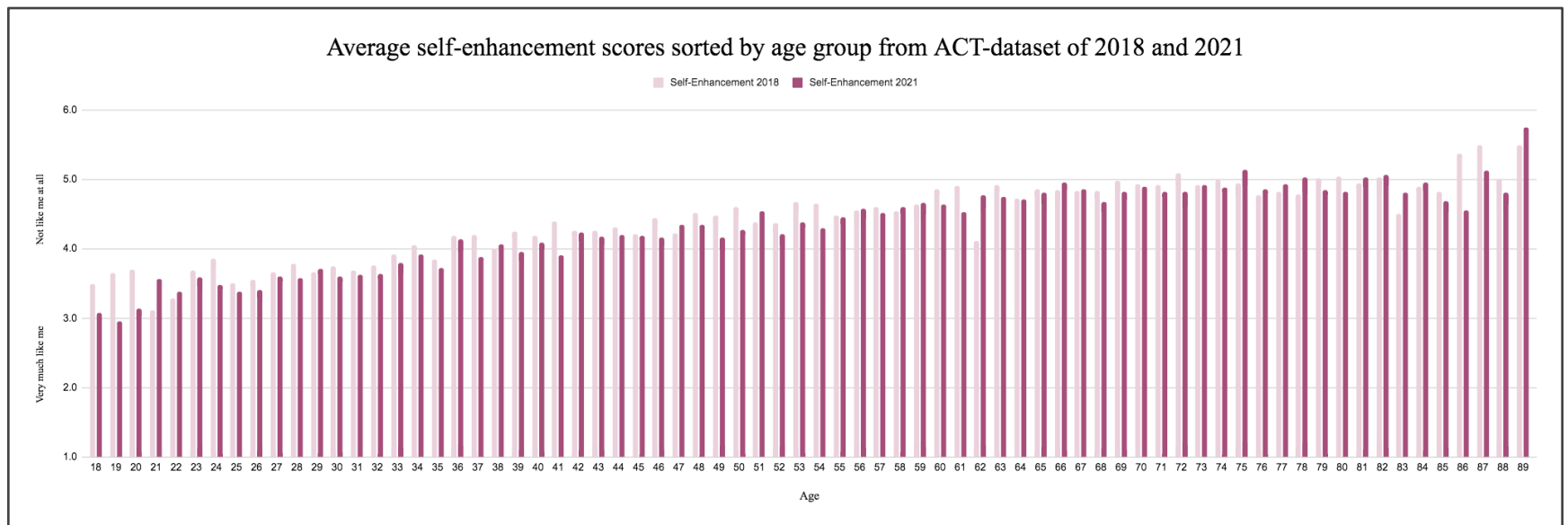
b)

Number of trips for work 2021
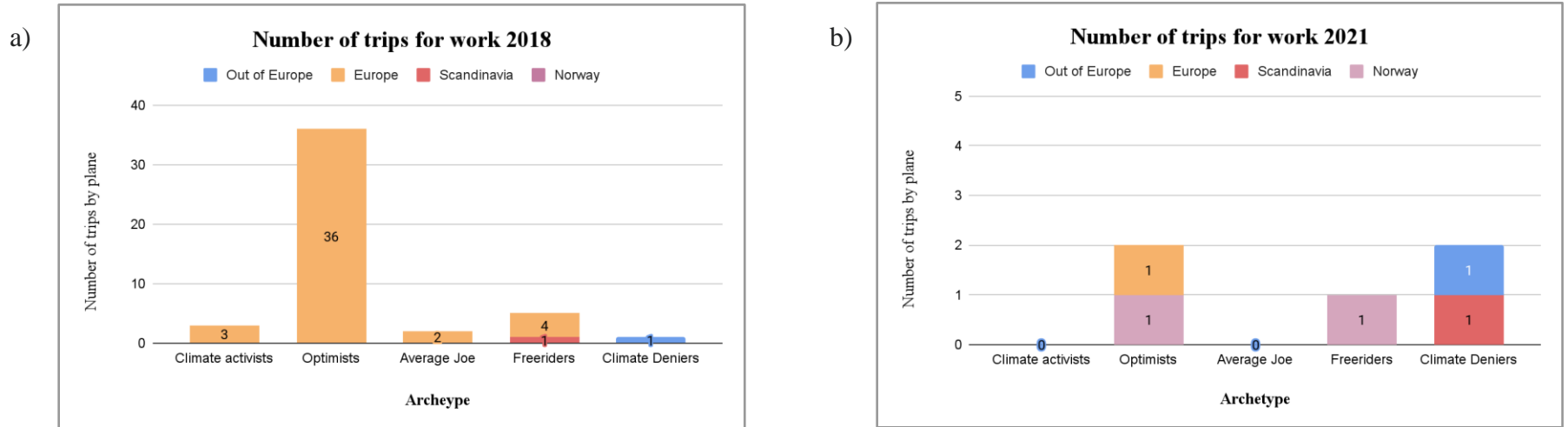
Appendix G: Average value scores by age comparing ACT-data from 2018 and 2021. Environmental values (a), self-transcendence values (b) and self-enhancement values (c) are shown by age.

a)

Average environmental value scores sorted by age group from ACT-dataset of 2018 and 2021

b)

Average self-transcendence scores sorted by age group from ACT-dataset of 2018 and 2021

c)

Average self-enhancement scores sorted by age group from ACT-dataset of 2018 and 2021

Appendix H. NSD Information and consent form.

Vil du delta i forskningsprosjektet

Roles impacting perceived climate concern for flight travels

Dette er et spørsmål til deg om å delta i et forskningsprosjekt hvor formålet er å kartlegge folks klimabevissthet i forbindelse med egne reisevaner og valg av transportmiddel. I dette skrivet gir vi deg informasjon om målene for prosjektet og hva deltakelse vil innebære for deg.

Formål
Formålet med masterprosjektet er å få innsikt i folks klimabevissthet knyttet til deres reisevaner og valg av transportmiddel. Vi ønsker å undersøke om rollene folk innehar i forbindelse med reisen de skal utføre er med på å påvirke hvordan de tenker på miljøkonsekvensene. I tillegg ønsker vi å undersøke hvorvidt koronapandemien har påvirket folks klima bevissthet, samt fremtidige reisevalg. For å muliggjøre dette har vi som mål å intervjue minst 30 personer i Norge.

For å undersøke denne tematikken nærmere har vi to forskningsspørsmål. Disse er:
1. In what way do individual climate concerns of flight travels vary based on the perceived role they inhabit?
2. Has the covid-19 pandemic impacted individual motivations and climate considerations of travels by plane?

Avhengig av prosessen og resultatene av studiet blir det mulighet for publisering i et tidsskrift i samarbeid med Cicero.

Hvem er ansvarlig for forskningsprosjektet?
Norges miljø- og biovitenskapelige universitet er ansvarlig for prosjektet. I tillegg skal Cicero bistå med relevant kvantitativ data til prosjektet.

Hvorfor får du spørsmål om å delta?
Vårt masterprosjekt undersøker nordmenn i alder 18-90 år som har fysisk mulighet til å reise til utlandet. Ettersom du møter disse kriteriene ønsker vi at du deltar i vårt intervju.

Hva innebærer det for deg å delta?
Hvis du velger å delta i prosjektet, innebærer det at du deltar i et individuelt dybdeintervju. Det vil ta deg ca. 30 minutter, og intervjuet vil foregå digitalt som følge av pandemien. Intervjuet inneholder spørsmål om din livssituasjon, samt reisevaner og klima bevissthet. Dine svar fra intervjuet blir registrert elektronisk og anonymisert. Jeg tar lydopptak og notater fra intervjuet.

Det er frivillig å delta
Det er frivillig å delta i prosjektet. Hvis du velger å delta, kan du når som helst trekke samtykket tilbake uten å oppgi noen grunn. Alle dine personopplysninger vil da bli slettet. Det vil ikke ha noen negative konsekvenser for deg hvis du ikke vil delta eller senere velger å trekke deg.

Ditt personvern – hvordan vi oppbevarer og bruker dine opplysninger
Vi vil bare bruke opplysningene om deg til formålene vi har fortalt om i dette skrivet. Vi behandler opplysningene konfidensielt og i samsvar med personvernregelverket.

Katrine Haga og Marie Westerby ved Norges miljø- og biovitenskapelige universitet vil ha tilgang til dataen. Masterveileder Arild Vatn vil også ha tilgang.

Navnet og kontaktopplysningene dine vil jeg erstatte med en kode som lagres på egen navneliste adskilt fra øvrige data og lagre datamaterialet i en kryptert fil.

Deltakerne vil ikke kunne gjenkjennes i eventuell publikasjon.

Hva skjer med opplysningene dine når vi avslutter forskningsprosjektet?
Opplysningene anonymiseres når prosjektet avsluttes/oppgaven er godkjent, noe som etter planen er innen 15.mai 2022. Personopplysninger og eventuelle lydopptak vil bli slettet i etterkant av prosjektet.

Dine rettigheter
Så lenge du kan identifiseres i datamaterialet, har du rett til:
- innsyn i hvilke personopplysninger som er registrert om deg, og å få utlevert en kopi av opplysningene,
- å få rettet personopplysninger om deg,
- å få slettet personopplysninger om deg, og
- å sende klage til Datatilsynet om behandlingen av dine personopplysninger.

Hva gir oss rett til å behandle personopplysninger om deg?
Vi behandler opplysninger om deg basert på ditt samtykke.

På oppdrag fra Norges miljø- og biovitenskapelige universitet har NSD – Norsk senter for forskningsdata AS vurdert at behandlingen av personopplysninger i dette prosjektet er i samsvar med personvernregelverket.

Hvor kan jeg finne ut mer?
Hvis du har spørsmål til studien, eller ønsker å benytte deg av dine rettigheter, ta kontakt med:
- Norges miljø- og biovitenksapelige universitet ved studentene Katrine Haga og Marie Westerby, samt veileder Arild Vatn.
- Vårt personvernombud: Hanne Pernille Gulbrandsen (personvernombud@nmbu.no)

Hvis du har spørsmål knyttet til NSD sin vurdering av prosjektet, kan du ta kontakt med:
- NSD – Norsk senter for forskningsdata AS på epost (personverntjenester@nsd.no) eller på telefon: 55 58 21 17.

Med vennlig hilsen

Arild Vatn

Katrine Haga og Marie Westerby

Prosjektansvarlig

Student

(Forsker/veileder)

Samtykkeerklæring

Jeg har mottatt og forstått informasjon om prosjektet «Roles impacting perceived climate concern for flight travels», og har fått anledning til å stille spørsmål. Jeg samtykker til:

☐   å delta i personlig dybdeintervju

Jeg samtykker til at mine opplysninger behandles frem til prosjektet er avsluttet

----

(Signert av prosjektdeltaker, dato)