Social class and the shaping of environmental willingness

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end of the month vs. end of the world

Preface

In the fall of 2023, I attended a so-called "general meeting" of the pro-environmental activist group Extinction Rebellion (XR). I attended this meeting to study the power dynamics within a bottom-up activists' organization for a qualitative research course of the research master in Public Administration and Organizational Science at Utrecht University. During the "general meeting", people spoke and introduced themselves by stating their activist name, followed by their occupation. The occupations that were mentioned included those of teachers, artists, and public servants. I wondered whether people working as construction workers, truck drivers, or electricians did not feel the freedom to speak up or were not in the room at all. My gut feeling said the latter. This experience made me wonder about a larger, societal question: whether social class shapes people´s willingness to take personal action to mitigate climate change.

This research master thesis provides a possible answer to this research question. In the process of answering this research question, I was supervised by Dr. Koen Damhuis and Prof. dr. mr. Mark Bovens. I want to take the opportunity to thank Dr. Koen Damhuis for his constructive feedback throughout the process. The feedback and supervision enabled me to learn more and improve my research abilities as a young researcher. Furthermore, I want to thank Prof. dr.mr. Mark Bovens for his fruitful feedback on the research proposal. Additionally, I would like to express my gratitude to all the participants that I was allowed to interview. I want to thank them for their willingness, their time, and especially their open attitude regarding my questions. Lastly, I want to thank Benthe van Berendonk who designed the cover of this research master thesis and dedicated a lot of time and devotion to it.

Abstract

This study explores how social class shapes environmental willingness because it is unclear which social class-related factors shape environmental willingness. Therefore, a sequential mixed-methods design is used to answer this main research question. Firstly, the most distinct social classes with regard to environmental willingness are explored. Descriptive (comparing means) and inferential (multiple linear regression analyses) statistics show that socio-cultural (semi-)professionals are the most distinct social class regarding environmental willingness. Secondly, semi-structured interviews are conducted with both socio-cultural (semi-)professionals and production workers to unravel what the social class-related factors are that shape this distinction. The results of a thematic narrative analysis show that cognitive (e.g., political sophistication), material (e.g., ability to make it to the "end of the month"), and cultural (e.g., differences in lifestyles) factors are social class-related and shape environmental willingness. Therefore, this study shows how social class-related factors shape in a complex interplay environmental willingness differently for socio-cultural (semi-)professionals and production workers.

Table of Contents

1 Introduction

"Be able to fill your fridge with dignity!" (Métais, 2022)

"Earth needs thinkers, not deniers!" (Taylor & Vaughan, 2018)

The quotes above are the words written on the protest signs of two different social movements: the yellow vests movement and the pro-environmental movement. These quotes capture a tension between two worldviews. One oriented towards addressing the everyday issues that many French people face. The other is oriented towards solving global climate change (Driscoll, 2021). The yellow vests movement started in the autumn of 2018 in France, when thousands of people protested in yellow high-visibility vests against an increase in petrol and diesel taxes (Mau et al., 2023). For months, there were riots, roadblocks, and fights with the police. This protest movement rapidly crossed the borders towards Belgium and the Netherlands (Mau et al., 2023). Gradually, these protests were not only about the tax increases in France anymore, but the yellow vests also demonstrated to achieve more equality, public welfare, and participatory/direct democracy (Wilkin, 2020). The yellow vests became a symbol of the working class that wanted to achieve more social equality and be able "to fill their fridges with dignity" (Métais, 2022).

Meanwhile, in 2018, Greta Thunberg became the symbol of a younger generation demanding political action to tackle climate change. Every school day, for three weeks, she sat in front of the Swedish parliament and demanded that politicians obtain their commitments to the Paris Agreement (Fritz et al., 2023). As a result, young people began to skip school to protest for climate change action on Fridays. This movement is now known as the Fridays for Future (FFF) movement. FFF gained momentum around the world with protests in more than 150 countries (Fritz et al., 2023). In September 2019, a Global Climate Strike was organized by the FFF movement and other grass-roots movements such as Extinction Rebellion (XR). An estimated 7.6 million schoolchildren, students, and adults marched in 185 countries to raise their voice to mitigate climate change as "the world needs thinkers, not deniers" (Martiskainen et al., 2020; Taylor & Vaughan, 2018).

The pro-environmental movement has its roots in the 1980s. The pro-environmental movement was able to mobilize in the 1980's and today, especially the socio-cultural (semi-)professionals (Kriesi, 1989; Mau et al., 2023). This is in contrast with the "old" social movements, because they were especially successful in mobilizing the working class and were concerned with

limiting the social costs of the capitalist economy "from below" (Mau et al., 2023). Therefore, pro-environmental movements such as Extinction Rebellion (XR) are criticized for their lack of diversity: they fail to engage black, Asian, and other minority ethnic, low-income, and working-class communities (Bell, 2020; Bell & Bevan 2021). XR is not only criticized by academics but also in the media, especially in the United Kingdom (UK). Sky Television presenter Carole Malone described XR as a "loopy middle-class doomsday cult", and columnist Brendan O'Neill depicted the group as "an anti-working class movement" (Bell & Bevan, 2021). In addition, research shows that only ten percent of the XR members identify as a working class members (Bell & Bevan, 2021; Hayes et al., 2020). This is in contrast to the composition of the yellow vests movement, where the working-class was overrepresented (Mau et al., 2023; Wilkin, 2020). To sum up, protesters of the yellow vests' movement are concerned with how to make it to "the end of the month," whereas protesters of the pro-environmental movement are concerned with how to make it to "the end of the world".

"The end of the month vs. the end of the world" seems to reflect contrasting worldviews. However, they reflect different sides of the same coin. Mau, Lux and Westhauser (2023), present three[1] reasons why climate change is inherently tied to social class. Firstly, climate change seems to lead to a divide between the rich and the poor. A divide is created between social classes, by creating a gap between the people who are able to adapt to climate change and those who are not. Therefore, the impact and vulnerabilities of climate change are not equally distributed among social classes, both nationally and globally. Secondly, ecological transitions have a profound impact on everyday life matters such as mobility, consumption, and work. Due to ecological expenses, everyday life matters are revisited leading to an increase in living costs. Therefore, these ecological expenses have a class specific impact. This may lead to an increase in distribution conflicts: who gets what, how, and when? Thirdly, a symbolic conflict can emerge between status groups in the context of sustainable lifestyles (Mau et al., 2023). Diverseness in attributions of legitimate and illegitimate lifestyles is constructed differently across social groups as well as the practices attributed to them (Gengnagel & Zimmermann, 2022). Material and symbolic boundaries are created through the construction of personal and social identities between social classes regarding who can effort solar panels, oat milk, and an electric car. Therefore, boundaries are created between who can be part of this legitimate, moral, sustainable lifestyle and who cannot (Reckwitz, 2020; Schenk et al., 2021).

[1] Mau, Lux and Westhauser (2023) distinguish in their book four reasons why climate change is a class question. Due to substantive overlap, two reasons are merged together into the first reason regarding how climate change leads to a divide between the rich and the poor.

To sum up, social class and climate change can be seen as two sides of the same coin of social inequality.

1.1 Position in the existing literature

Despite the adverse impact of climate change, research about climate change attitudes is still in its infancy (Poortinga et al., 2019; Kenny & Langeasther, 2023). Keohane (2015) stated that "in view of the magnitude of climate change, it is distressing to observe the slow response from political science as a discipline" (p. 19). Today, it is a rapidly growing research field that is especially focused on beliefs regarding the causes of climate change (Broomell et al., 2015). Therefore, other aspects of climate change perceptions remain under-researched, like environmental willingness. Environmental willingness is one of the dimensions of environmentalism[2]. Environmental willingness refers to the willingness of people to take personal action to mitigate climate change. Mitigation refers to attempts to prevent or reduce climate change and its negative impact on the climate (e.g., reducing the number of flights per year) (Bateman & O'Connor, 2016). Environmentalism is, according to Kenny & Laengesther (2023), a multi-dimensional concept that consists of environmental willingness, environmental beliefs, environmental efficacy, and societal priorities. The limited attention given to environmental willingness is identified as the first shortcoming of the academic literature, because it is important to study environmental willingness as it is connected to the actual behavior of people to mitigate climate change (Bouman et al., 2020).

The second shortcoming of the academic literature is that the majority of the studies do not focus on how social class shapes climate change attitudes. Most literature focuses on the role of education, political preference, or religiosity (Poortinga et al., 2019; Ziegler, 2017; De Kluizenaar et al., 2020; Hornsey et al., 2016; McCright & Dunlap, 2011b, 2011a). However, it is important to study social class as environmental forms of injustice like disaster risk are patterned in ways that reflect pre-existing social and economic inequalities between social classes (Falzon et al., 2021). Despite the fact that academic research did not study how social class shapes environmental willingness, other dimensions of environmentalism in relation to social class were studied. This research shows that social class is a shaping force of environmentalism as a separate dimension of political preference (Kenny & Langeasther,

[2] In section 2.3 environmental willingness is further explained.

2023), of conflict in eco-social policies (Fritz & Eversberg, 2023), and of inequalities underlying the climate crisis (Mau et al., 2023).

The third shortcoming of the academic literature regards the research designs and methodologies used to study social class and climate change attitudes. Most studies, namely, studied the topic using quantitative measurements (Kenny & Langeasther, 2023; Gifford & Nilsson, 2014; Fritz & Eversberg, 2023). This generated knowledge about the relationship between social class and climate change attitudes at a societal level. Even though this type of research generated important insights to understand the relationship between social class and climate change attitudes, the factors that shape this relationship remain unknown (Ekström, 1992). It is important to unravel these shaping factors because it otherwise remains unclear for academics and policymakers what exactly drives people's perceptions, values, beliefs and assumptions related to environmental willingness (Choy, 2014).

1.2 Research goals and questions

Based on these three shortcomings, the goal of this research is to identify the most distinct social classes regarding environmental willingness (1) and to understand the factors that shape this distinction (2). To achieve this twofold goal, the following research question is formulated:

How does social class shape the willingness of people to take personal action to mitigate climate change?

To answer this research question, theoretical and empirical sub-questions are formulated. The goal of the first theoretical sub-question is to understand how social class is conceptualized in the academic literature in relation to environmentalism. In addition, this sub-question is used to make a well-considered decision regarding the conceptualization of social class used in this research. Therefore, the following sub-question is formulated:

1a) How can social class be understood based on the academic literature?

Furthermore, the goal of the second theoretical sub-question is to understand, based on the academic literature, what the willingness dimension of environmentalism implies. Therefore, the following sub-question is formulated:

1b) How can the willingness of people to take personal action to mitigate climate change be understood based on the academic literature?

After discussing both the conceptualization of social class and environmental willingness, a third theoretical sub-question is formulated. The goal of this sub-question is to understand what the most distinct social classes are regarding environmental willingness. Therefore, the following sub-question is formulated:

1c) Which social classes are the most distinct regarding the willingness of people to take personal action to mitigate climate change, based on the academic literature?

However, the sub-question above does not provide insights about the social class-related factors that shape environmental willingness and how they create a divide between classes. Therefore, the goal of the fourth theoretical sub-question is to identify the social class-related factors that might shape environmental willingness. Therefore, the following sub-question is formulated:

1d) Which social class- related factors can be derived from the academic literature that shape the willingness of people to mitigate climate change?

Besides theoretical sub-questions, this research will also address empirical questions. The goal of the first empirical sub-question is to investigate what the most distinct social classes are regarding environmental willingness. The following, sub-question is formulated:

2a) Which social classes are the most distinct regarding the willingness of people to mitigate climate change?

To answer this sub-question, data from the European Social Survey (ESS) round 10 is analyzed by comparing the means of the social classes regarding environmental willingness (ESS, 2020). In addition, several multiple linear regression analyses are conducted to investigate the relationship between social class and environmental willingness[3]. Based on these analyses , the two most distinct social classes were selected. This will constitute the starting point for answering the second empirical sub-question. The goal of the second empirical sub-question is, namely, to understand how social class-related factors shape environmental willingness. Therefore, the following sub-question is formulated:

2b) How do social class-related factors play a role in shaping the willingness of people to take personal action to mitigate climate change?

To answer this sub-question, semi-structured interviews will be conducted among members of the two most distinct social classes. These semi-structured interviews will be analyzed by conducting a thematic narrative analysis. Following the stages of the questions, a sequential

[3] There is additional controlled for level of education, gender and age.

mixed methods design[4] is the most suitable design to answer them, because the first quantitative phase functions as a starting point for the qualitative stage. The main focus of this study lies on the second qualitative stage, as it provides insights in how social class shapes people's perceptions, feelings, and thoughts regarding environmental willingness. The combination of quantitative methods and especially qualitative methods allows for a more elaborated understanding of the phenomenon of interest (Cook et al., 2020). Furthermore, to gain an in-depth understanding of how social class-related factors shape environmental willingness, a most likely case design is used (Brady & Collier, 2010). The Netherlands is seen as a most likely[5] case for social class differences relating to environmental willingness to occur.

1.3 Scientific and social relevance

This research is relevant from a scientific and social point of view. The scientific relevance is connected to the three shortcomings of the academic literature described in the previous section. The first shortcoming is that environmental willingness is an understudied topic. This research focuses on environmental willingness and provide insights regarding the willingness of people to take personal action to mitigate climate change. The second shortcoming is the limited research conducted about social class in relation to climate change attitudes in general. This shortcoming is addressed by the focus on social class in this study. The research that does exist about social class and climate change attitudes uses quantitative measures to explore the relationship at the societal level (Kenny & Langeasther, 2023; Gifford & Nilsson, 2014; Fritz & Eversberg, 2023). However, the factors that shape this relationship at the individual level remain unexplored. This is identified as the third shortcoming and is addressed by exploring the social class-related factors that shape environmental willingness through the use of qualitative measures. In addition, the social class-related factors are approached from a multi-dimensional perspective that focuses on cognitive, material and cultural factors.

Furthermore, this research is relevant from a societal perspective. The world is currently facing complex problems due to climate change that include loss and damage to nature and people (Hornsey et al., 2016; IPCC, 2023). The World Bank (2020) estimated that an additional 86 to 135 million people could be pushed into poverty by 2030 because climate change has disproportionately affected the poorest regions and the poorest people. Since 2019, the within-

[4] A deeper explanation of a sequential mixed-methods design is provided in section 3.3.
[5] The rationale for choosing a most likely case design and the decision to choose the Netherlands is extensively discussed in the methodological chapter (Chapter 3).

country differences between different social groups have become larger than global inequalities between countries (Fritz & Eversberg, 2023). Therefore, conflicts emerge within countries about establishing eco-social policies and how they will transform everyday life (Fritz & Eversberg, 2023). However, public support to mitigate climate change is needed to cope with its adverse ecological and social consequences (Fritz & Eversberg, 2023; IPCC, 2018). To foster public support regarding climate change mitigation, it is important to know whether and why people are willing to take personal action to mitigate climate change. Gaining insights into environmental willingness is especially important, because climate change is expected to increase existing social inequalities (WRR, 2023; Mau et al., 2023; Falzon et al., 2021). Therefore, this research can be used by policymakers to develop and implement policies that address social inequalities based on social class differences that underpin climate change mitigation measures.

2 Theoretical framework

2.1 Introduction

This chapter deals with the theoretical sub-questions that support this research. The first section addresses the first theoretical sub-question, namely*: how can social class be understood based on the academic literature? (1a)*. The second section deals with the second theoretical question, by answering: *how can the willingness of people to take personal action to mitigate climate change be understood based on the academic literature? (1b).* The third theoretical sub-question, *Which social classes are the most distinct regarding the willingness of people to take personal action to mitigate climate change, based on the academic literature? (1c)*, is answered in the third section. Lastly, the fourth section addresses the fourth theoretical sub-question, namely: *which social class-related factors can be derived from the academic literature that shape the willingness of people to mitigate climate change? (1d).*

2.2 How can social class be understood?

Throughout the history of sociology, the definition of social class has been extensively debated (Custers & Engbersen, 2022). The Erikson-Goldthorpe-Portocarero (EGP) social class scheme is widely used within social stratification research on social mobility, education, and labor market inequalities (Smallenbroek et al., 2021). The EGP scheme is also used in research about environmentalism as an independent dimension of political preference (Kenny & Langeasther, 2023). The EGP scheme is an example of an economic conceptualization of social class as it is based on families' market and work positions (Custers & Engbersen, 2022; Smallenbroek et al., 2021). In addition, building further on the work of Pierre Bourdieu (1984, 1986), a cultural analysis of social class has also been developed. This theory of social class views "capital" as the driving force of and individual's societal position. Capital is defined as accumulated labor in the widest sense, and it varies in both volume (the possession of a certain amount of capital) and composition of capital (different types of capital). Bourdieu (1984, 1986) distinguished three types of capital: economical, social, and cultural. Bourdieu[6] theorized social class as the

[6] The theory of Bourdieu is not a direct example of intersectionality developed by Crenshaw (1991). However, it does share the same commonalities. Bourdieu (1984, 1986) focuses on economic, social and cultural capital, whereas Crenshaw (1991) considers a broader range of intersecting identities such as gender and race. Even though intersectionality is not the focus of this research, it is important to acknowledge that social class can be treated as an intersectional concept as well. Whereby multiple social identities, such as gender and race, can intersect and shape individual's experiences and opportunities.

possession of economic, social, and cultural capital. Economical capital refers to wealth and income, and social capital refers to the contacts and connections that allow people to draw on their social networks. In addition, the ability to appreciate and engage with cultural goods and credentials institutionalized through educational success is referred to as cultural capital (Custers & Engbersen, 2022). This relational Bourdieusian framework has been used by various researchers to study class structure (e.g., Flemmen et al., 2019; Damhuis, 2020; Custers & Engbersen, 2022). Furthermore, this conceptualization of social class is also used to study socio-ecological conflict (Fritz & Eversberg, 2023; Fritz et al., 2023).

The EGP schema as well as the cultural analysis of Bourdieu, were both developed in the 20th century. While these classifications are still relevant today, they do not account for the current heterogeneity of the occupational system (Oesch, 2006). Therefore, the social class classification scheme of Oesch (2006) is used in this research to account for the increased heterogeneity in the occupation system. This heterogeneity has increased due to the growth of the service sectors, the rise of welfare state expansion, and the increase in female precipitation (Oesch, 2006). Therefore, the occupational system changed from industrial focused to service-orientated-focused (Oesch, 2006). This development was tied to the corresponding educational upgrading and de-industrialization. Therefore, the salaried middle class grew and the number of people working in the unskilled industrial workforce decreased (Oesch, 2006). Thus, the heterogeneity of the occupational system increased. In addition, heterogeneity also increased within classes. For example, within the salaried middle class, there exist substantial differences between socio-cultural (semi-)professionals and technical experts and managers (Oesch, 2006). This differentiation is manifested in differences in income, mobility patterns, political preferences, and voting patterns (Kitschelt & Rehm, 2014; Hertel, 2017; Smallenbroek et al., 2021). Therefore, the salaried middle class is no longer conceptualized as one unitary category within the classification of Oesch (2006). Already in 1989, Kriesi showed that new social movements (such as the pro-environmental movement), especially mobilized socio-cultural (semi-)professionals compared to all other social classes. It is therefore expected that the cultural middle class and the economical middle class will also differentiate regarding environmental willingness.

Zooming in on the social class classification of Oesch (2006), it is a two-dimensional framework that complements the classical vertical stratification of the employment structure with the horizontal differentiation of occupations along work logics (Oesch, 2006; Holst et al., 2020). Oesch (2006) argued that the heterogeneity of the occupational system is included in

this classification by adding this horizontal criterion to the vertical class criterion. The horizontal criterion includes differentiation regarding work logics and work environments, which appears to run through the salaried middle class, separating the professionals of the cultural middle class from the technical experts and managers of the economical middle class (Oesch, 2006; Kriesi, 1989). In addition, the two-dimensional framework of Oesch (2006) includes both the hierarchical perspective of the employers (the demand side of the labor market) and the hierarchical perspective of the employer (the demand side of the labor market). Therefore, Oesch (2006) distinguishes four different work logics dividing eight different social classes. In Appendix A, a table is presented with the eight different classes structured by the four work logics. This table also includes examples of typical occupations associated with the different classes.

2.3 How can environmental willingness be understood?

For a long time, environmentalism has been viewed as an unidimensional construct ranging from being unconcerned to concerned about the environment (Kenny & Langsæther, 2023). However, recent studies show that environmentalism is a complex, multi-dimensional concept (Kenny & Langsæther, 2023; Milfont, 2012). In addition, the facets of environmentalism can differ empirically by individual. For example, the response patterns can differ per environmental topic. The level of environmentalism can differ whether an individual is asked about air pollution or climate change in general (Kenny & Langsæther, 2023). According to Kenny and Langsæther (2023), the dimensions of environmentalism include the willingness to take personal action, environmental beliefs, environmental efficacy, and societal priorities. Therefore, Kenny and Langsæther (2023) developed the following items: whether respondents would give up part of their income to prevent pollution; whether it is too difficult for someone like the respondent to do much about the environment; whether there are more important things to do than protect the environment, whether there is no point in taking action for the environment unless others do too; whether many claims about environmental threats are exaggerated; and whether one would prioritize environmental protection over economic growth and jobs. This research focuses on one specific dimension of environmentalism, namely environmental willingness. As described in the introduction, environmental willingness is less extensively investigated compared to other dimensions (Broomell et al., 2015). However, environmental willingness is needed to achieve meaningful mitigation of climate change (Brody et al., 2012).

Furthermore, environmental willingness is also closely linked to both mitigation and adaptive behavior (Bateman & O'Connor, 2016). Mitigation refers to attempts to prevent or reduce climate change to diminish its negative effects and consequences (Bateman & O'Connor, 2016). In contrast, adaptation refers to attempts to address global warming and impeding climate change by preparing for it (Bateman & O'Connor, 2016). The difference between mitigation behavior and adaption is viewed by Tan-Soo and colleagues (2023) as "individuals protecting the environment (mitigation) or protecting themselves from environmental harms (adaptation)" (p. 2).

2.4 How does social class relate to environmental willingness?

As stated in the introduction, how social class shapes environmental willingness has not been investigated. However, there are strong indications that social class shapes environmental willingness. Gifford and Nilsson (2014) conducted a literature review about personal and social factors that influence pro-environmental concerns and behaviors. They conclude that there is a relationship between social class and pro-environmental concern. This relationship was empirically tested by Kenny and Leangesther in 2023. They found that environmentalism is strongly associated with social class. Even after controlling for level of education, the strong relationship between social class and environmentalism remained. According to Kenny and Leangesther (2023), this indicates that social class influences environmentalism over and beyond any socialization or self-selection effects of education. In addition, research by Fritz and Eversberg (2023) shows that there is a strong relationship between social class and attitudes towards eco-social policies. They argue that social-ecological transformation conflict is embedded in class inequalities and cultural-ideological differences.

Despite variations in outcome variables and different conceptualizations of social class, the conclusions of Gifford and Nilsson (2014), Kenny and Leangesther (2023), and Fritz and Eversberg (2023) converge: members of the socio-cultural (semi-)professional class express greater environmental concern, exhibit stronger environmentalist attitudes, and show higher support for eco-social policies compared to other classes. Conversely, production workers tend to exhibit the opposite trend. For example, the working class and the self-employed class are the least environmentalists, and the two classes are more skeptical of the sustainability transformation (Kenny & Leangesther, 2023). One possible reason for this attitude among members of the working class is that they are more likely to distrust institutions and may be unable to bear the transformation costs compared to other classes (Kenny & Leangesther, 2023).

In addition, the working class and self-employed class are also the least supportive of eco-social policies (Fritz & Eversberg, 2023). This is in line with the findings of Mau and others (2023). They found that socio-cultural professionals and production workers are the most distinct social class on several dimensions regarding climate change attitudes. The socio-cultural professionals are the most worried social class regarding climate change, whereas the production workers are the least worried social class. Based on these insights from the academic literature, the following hypothesis is formulated: *Socio-cultural (semi-)professionals and production workers are the most distinct social classes regarding their willingness to take personal action to mitigate climate change (hypothesis 1).*

2.5. How do social class-related factors shape environmental willingness?

Based on the academic literature, three social class-related factors are identified that might shape environmental willingness. The first factor that might shape environmental willingness is expected to be of a cognitive nature. The second factor that might shape environmental willingness is expected to be material. Lastly, the third factor that might shape environmental willingness is expected to be cultural.

2.5.1 Cognitive factors

To understand possible cognitive factors that shape environmental willingness, it is important to understand how individuals process information (Trémolière & Djeriouat, 2021). Cognitive function is a decisive component of risk perception and skepticism relating to climate change. The topic of climate change is centered on explanatory models and concepts that are often difficult to comprehend (Trémolière & Djeriouat, 2021). Therefore, the processing of information regarding climate change is linked to political sophistication (Kellstedt et al., 2019). Political sophistication is conceptualized as the quantity and organization of an individual´s political cognitions. This consists of contextual information about the issue that is connected to facts surrounding the issue rather than generalized knowledge of people and political processes (Kellstedt et al., 2019). In addition, political sophistication consists of an individual's cognitive ability to organize and store information. In this regard, individuals need to have some capacity to conceptualize political ideas and connect them in a systematic manner (Kellstedt et al., 2019). This relates to individuals their ability to deal with political abstractions (Marthaler, 2020). Climate change is one of the most pressing issues in contemporary global politics, according to Kellsted and colleagues (2019). Therefore, political sophistication is a

useful lens to examine individuals' opinions regarding environmental willingness (Kellstedt et al., 2019).

Furthermore, the ability of individuals to process and navigate through political information is related to their level of education and exposure to information resources available through mass media and the internet (Marthaler, 2020). Individuals with "higher" levels of education are better equipped with cognitive abilities to use and understand abstract concepts compared to individuals with "lower" levels of education (Marthaler, 2020). According to Kelstedt and colleagues (2019), education is a proxy for political sophistication. In addition, education is also seen as a proxy for more knowledge or a better understanding of the scientific evidence regarding climate change (Poortinga et al., 2019). Trémolière and Djeriouat (2021) concluded that these cognitive abilities are needed to understand the abstract and complex phenomena of climate change.

Furthermore, media exposure is also a useful proxy to understand political sophistication (Kellstedt et al., 2019). Individuals develop political knowledge about climate change and awareness through the media. Hunter and colleagues (2004) found that media use enhances awareness of climate change and related behaviors to mitigate climate change. According to Lindell and Sartoretto (2018), there are class-distinctive orientations in the news media environment. Individuals from lower social classes, like production workers, are prone to avoid the news compared to members of higher social classes such as socio-cultural (semi-)professionals. Whereas members of high social classes with high levels of cultural and economic capital are more inclined to seek news (Lindell & Sartoretto, 2018).

Therefore, political sophistication is expected to shape differences in the problem definition of climate change between socio-cultural (semi-)professionals and production workers in three ways. Firstly, there are differences in the belief of what causes climate change (Mau et al., 2023). Poortinga and others (2011) found that members of the working class, such as production workers, were significantly more likely to think that the climate is not changing. The upper middle class and middle class, where the socio-cultural (semi-)professionals belong, believe that climate change is human-caused (Poortinga et al., 2011). Secondly, political sophistication is expected to shape how different social classes view the consequences of climate change. Socio-cultural (semi-)professionals view the consequences of climate change through an ecological lens (Mau et al., 2023). They view weather extremes (e.g., droughts and floods) and the destruction of nature as the consequences of climate change and describe this problem by using quasi-apocalyptic terms (Mau et al., 2023). On the other hand, production workers

perceive the problem through an economic lens. They emphasize the impacts of sustainable transformation costs associated with mitigating climate change rather than focusing on the ecological consequences of climate change itself (Mau et al., 2023). Therefore, production workers view the transformation as unjust distortions and interventions in their day-to-day. Thirdly, political sophistication and related cognitive abilities are expected to shape the perceptions of the long-term effects of mitigation measures differently for socio-cultural (semi-)professionals and production workers. For the reason that the positive aspects of green behavior only emerge after many years in the future, while the costs and sacrifices have to take place in the present (Korteling et al., 2023). However, people have preferences for rewards that arrive sooner rather than later. Therefore, they discount the value of the later reward and/or delayed feedback in their attitude (Korteling et al., 2023). Thus, cognitive abilities related to political sophistication are needed to think about climate change and related mitigation measures from a long-term and future-oriented perspective.

Concluding, political sophistication is expected to shape environmental willingness differently for the socio-cultural (semi-)professionals as for the production workers, because socio-cultural (semi-)professionals are expected to be "higher" educated and more exposed to media about climate change compared to production workers *(theoretical expectation 1a)*. Therefore, the socio-cultural (semi-)professionals are better equipped cognitively to think in an abstract and systematic way about climate change compared to production workers *(theoretical expectation 1b)*. Thus, it is expected that socio-cultural (semi-)professionals are more willing to take personal action to mitigate climate change compared to production workers *(theoretical expectation 1)*.

2.5.2 Material factors

Besides cognitive factors, environmental willingness is expected to be shaped by material factors such as individuals their ability to make it to "the end of the month" and their fear of loosing their job due to climate change mitigation measures (Martin & Islar, 2021). Members of the working class, such as production workers, experience difficulties making it to "the end of the month" (Martin & Islar, 2021). They have to deal with stagnant incomes, eroded buying power, and rising taxes and prices. Therefore, production workers are often neither "poor" enough to benefit from social welfare, nor "rich" enough to live with dignity (Martin & Islar, 2021). Their already precarious living situation is influenced by climate mitigation measures, because these policies have regressive distributional impacts. Mitigation policies often lead to

an increase in the cost of essential goods like food, energy, and mobility. This increase in the price of basic consumer goods and services will severely affect the poorest and most vulnerable members of society, such as production workers. A study conducted in Italy shows that there has been a significant deterioration in the economic situation of blue-collar families versus white-collar families (Tanjitpiyanond et al., 2022). Climate change mitigation measures impact these families the most, because they spend a large proportion of their income on essential goods and rely more heavily on public transport for their mobility needs (Markkanen & Anger-Kraavi, 2019). In addition, low-income households tend to spend a larger proportion of their income on energy-intensive products (e.g. space, water heating, electricity, fuel) and lack options for substitution (Markkanen & Anger-Kraavi, 2019). Socio-cultural (semi-)professionals are less likely to experience this immediate struggle of making it to "the end of the month", because they have higher incomes than production workers (Jacques, 2023). Therefore, socio-cultural (semi-)professionals have substantial resources to live comfortable lives, and they have no worries about making it to the "end of the month" (Martin & Islar, 2021). Therefore, they can be concerned about the "end of the world." Research shows that concerns regarding the "end of the world" due to climate change, only resonate with individuals who live comfortably and have enough resources (Martin & Islar, 2021). This may explain why higher-income groups tend to be more in favor of climate change measures (Otto & Gugushvili, 2020).

In addition, mitigation policies and measures also reduce employment opportunities for production workers (Markkanen & Anger-Kraavi, 2019). Occupations that align with the social class of production workers often include jobs in "polluting industries" such as mining and chemical factories (Markkanen & Anger-Kraavi, 2019; Vona, 2019). Sustainable transition-related job losses are likely to be concentrated in those specific sectors. Therefore, production workers might fear that they will be displaced due to climate change mitigation measures that target polluting industries (Vona, 2019). This fear is also fostered by the already experienced negative impact of de-industrialization, globalization, and earlier global financial crises (Markkanen & Anger-Kraavi, 2019). However, the educational sector, health-care sector and cultural sector were socio-cultural (semi-)professionals are often employed in, are less likely to be affected by sustainable transition-related job losses (Markkanen & Anger-Kraavi, 2019).

Furthermore, Eversberg (2021) connects the classification of Oesch (2006), also used in this study, with the social relations that people have regarding nature. The working class mostly works in jobs that follow a technical or organizational work logic (Eversberg, 2021). Members

of the working class adopt an instrumental logic to cope with their feelings of subordination and lack of autonomy. Therefore, ecology is not seen as an issue of general concern, as they frame it as "a luxury" that they cannot afford to think about. Given the financial challenges faced by production workers, they sometimes intentionally choose not to care about climate change and to view the consumption of non-sustainable goods and services as a way to maintain "good spirits" (Eversberg, 2021). This is in contrast to the relationship social-cultural (semi-)professionals have with nature. Social-cultural (semi-)professionals often work in occupations with an interpersonal work logic. This requires a high capacity of empathy to care for other people. This is mirrored in their relationship to nature. Nature is namely viewed as a necessary condition for survival that all people are in need of similar to the necessary condition of providing care to others (Eversberg, 2021).

Concluding, socio-cultural (semi-)professionals are expected to worry about the "end of the world" given their substantial resources. In contrast to production workers, who are expected to struggle to make it to the "end of the month" *(theoretical expectation 2a)*. Furthermore, socio-cultural (semi-)professionals are expected to have no fear of losing their jobs due to the sustainability transition. Contrary to production workers, who are expected to be afraid to lose their jobs as they work more often in "polluting industries" *(theoretical expectation 2b)*. Therefore, it is expected that socio-cultural (semi-)professionals are more willing to take personal action to mitigate climate change compared to production workers *(theoretical expectation 2)*. In addition, production workers are expected to apply an instrumental logic to their relationship with nature as they reframe climate change as a luxury they cannot afford to think about. On the other hand, social-cultural (semi-)professionals often exhibit an interpersonal work logic , as they usually care for others within their occupations. This same neutering tendency is expected to be mirrored in their relationship with nature (*theoretical expectation 2c)*.Therefore, it is expected that socio-cultural (semi-)professionals are more willing to take personal action to mitigate climate change compared to production workers *(theoretical expectation 2)*.

2.5.3 Cultural factors

In addition to cognitive and material factors, cultural factors are also expected to shape environmental willingness. Research shows that a cultural conflict has emerged between different social classes regarding sustainable lifestyles (Mau et al., 2023). Social classes, namely, construct a legitimate and illegitimate lifestyle differently, as well as the practices

attributed to them (Gengnagel & Zimmermann, 2022). This is reflected in the so-called "green distinction." The green distinction refers to the distinction between individuals who choose to have a green lifestyle (like socio-cultural (semi-)professionals) and others who do not or cannot adopt a green lifestyle (like production workers) (Gengnagel & Zimmermann, 2022; Elliott, 2021). This green distinction can also be understood by using a Bourdieusian lens regarding taste and social status (Elliot, 2021). Elliott (2021) argues that differentiation and classification lies at the core of green consumption. Through their taste for a green lifestyle and green related consumption, people signal their status. Similar to the consumption of luxury brands to signal one's wealth, owning an electric car, having solar panels, or buying organic products is used to elevate one's social status (Elliott, 2021). Therefore, green lifestyle and green consumption are used by people to distinguish themselves from others, because this particular lifestyle and related values create a sense of belonging to a 'higher' social class of people who are more concerned with the environment (Elliot, 2021). On the other hand, consumers with lower class position, such as production workers tend to eat more meat and purchase cheaper meat products due to limited financial resources than consumers with higher social class positions such as socio-cultural (semi-)professionals (Einhorn, 2021). These high-carbon behaviors, like eating meat, flying, and driving a petrol car, are often viewed as less legitimate and less moral lifestyles compared to "green" lifestyles (Gengnagel and Zimmermann, 2022; Currie & Choma, 2018). This is in contrast to how production workers perceive status, because it evolves around money and material relations (Damhuis & Westheuser, 2024). That is why Martin and Islar (2021) conclude that the working class has become peripheral and is being disregarded. This possibly explains why people with a non-green lifestyle view the green lifestyle as "a luxury," elitist, and moralizing (Barbeta-Viñas, 2023).

In addition, this moral connotation of the green lifestyle is also reflected in the perceived moralizing undertone of pro-environmental movements (Malier, 2021). Malier (2021) showed that pro-environmental movements hold the assumption that regardless of people's social position and actual carbon footprint, they have a moral obligation to green their lifestyles and to demonstrate a concern for the environment. Furthermore, research shows that pro-environmental movements often blame the working class for their non-green lifestyles and behaviors (Malier, 2021). Therefore, social distance is created between the working class and other social classes, such as socio-cultural (semi-)professionals. This social hierarchy of moral behavior and value orientation is also expressed by participants in the study of Gengnagel and Zimmermann (2022): "If I say it in a bad way, the traditional values of the little people have

brought us to where we are now with the climate. That's not so nice from a climatic point of view either. But everyone has to be taken along [...]" (p. 298). Therefore, a cultural and symbolic distinction among social classes is manifested in a dispute over lifestyles (Gengnagel & Zimmermann, 2022).

Concluding, differences in lifestyles and therefore the creation of the "green distinction" are expected to shape environmental willingness. Socio-cultural (semi-)professionals are expected to view a green lifestyle as more moral compared to a non-green lifestyle. Therefore, they are expected to view people with a green lifestyle as "higher" placed on the social hierarchy compared to people with a non-green lifestyle. On the other hand, production workers are expected to view a green lifestyle as a luxury and elitist lifestyle. They are expected to resist the green lifestyle, due to its moralizing undertone and the degradation of their own (often) non-green lifestyle (*theoretical expectation 3a)*. Therefore, socio-cultural (semi-)professionals are expected to be more willing to take personal action to mitigate climate change (*theoretical expectation 3).*

2.6 Conclusion

To conclude, the first theoretical sub-question is answered by exploring different conceptualizations of social class. In the end, the social class classification of Oesch (2006) was chosen to use to conceptualize social class, because it acknowledges the heterogeneity of the occupational system and the heterogeneity within classes. The second theoretical sub-question is answered by discussing the multiple dimensions of environmentalism, with a focus on the dimension of environmental willingness. Furthermore, it is discussed how environmental willingness is related to climate change mitigation and adaptation measures. The third theoretical sub-question is answered by discussing the relationship between social class and environmental willingness. Exploring the academic literature in relation to social class and climate change attitudes in general, shows that social class and climate change attitudes are strongly related. In addition, based on the academic literature, are socio-cultural (semi-)professionals and production workers the most distinct social classes regarding climate change perceptions. Based on the literature, this expectation is formalized in *hypothesis 1.* The fourth theoretical sub-question is answered by examining which social class-related factors might shape environmental willingness. Based on the academic literature, cognitive, material, and cultural factors are identified. With regard to these factors, theoretical expectations are formulated. The theoretical expectations with regard to the social class-related factors that

might shape environmental willingness are summarized in table 1. The theoretical expectations do not follow the logic of hypothesis testing within the paradigm of the logical positivists. The theoretical expectations are merely formulated to acknowledge that the researcher, before conducting a qualitative analysis, already has some theoretical ideas about what shapes environmental willingness differently for social classes. This is also in line with the choice to conduct a thematic narrative analysis in an abductive way. This is further addressed in section 3.3.

Table 1

Summary of theoretical expectation regarding social class-related factors that shape environmental willingness

	Socio-cultural (semi-) professionals	**Production workers**	
Cognitive factors	Relatively high levels of political sophistication are due to being "higher" educated and more exposed to the media *(theoretical expectation 1a).*	Relatively low levels of political sophistication due to being "lower" educated and less exposed to the media *(theoretical expectation 1a).*	**Socio-cultural (semi-)professionals are more willing to mitigate climate change than production workers (*theoretical expectation 1*).**
	Relatively more equipped with cognitive abilities to think in an abstract and systematic way *(theoretical expectation 1b).*	Relatively less equipped with cognitive abilities to think in an abstract and systematic way *(theoretical expectation 1b).*	
Material factors	Have substantial financial resources to live comfortably *(theoretical expectation 2a).*	Have not enough financial resources to make it to the end of the month *(theoretical expectation 2a).*	
	Have no fears of losing their jobs due to the sustainability transition *(theoretical expectation 2b).*	Have fears of losing their jobs due to the suitability transition *(theoretical expectation 2b).*	**Socio-cultural (semi-)professionals are more willing to mitigate climate change than production workers *(theoretical expectation 2).***
	Have an interpersonal work logic and mimic this in their relationship with nature *(theoretical expectation 2c).*	Have an instrumental work logic and mimic this in their relationship with nature *(theoretical expectation 2c).*	
Cultural factors	Have a green lifestyle and view this green lifestyle as more moral and legitimate compared to the non-green lifestyle *(theoretical expectation 3a).*	Have a non-green lifestyle and resist the moral undertone of people who have a green lifestyle as well as the degradation of their own non-green lifestyle *(theoretical expectation 3a).*	**Socio-cultural (semi-)professionals are more willing to mitigate climate change than production workers *(theoretical expectation 2).***

3 Methodology

3.1 Introduction

In order to answer the empirical sub-questions, several methodological choices are made. They influence how this study was conducted. In this chapter, the choices regarding the research design, method, and analysis are explained and justified. The related methodological choices and the application of the relevant quality criteria are discussed separately for the quantitative step and the qualitative step.

3.2 Opting for a most likely case selection

According to Halperin and Heath (2020), the most substantial strength of the case study is that by focusing on one case, that case can be extensively and in a in-depth way be studied. An appropriate case selection and study aim to say something interesting and meaningful about the phenomenon being studied. In addition, it also aims to say something more general and engages with a wider academic debate that might be applicable to other contexts and cases (Halperin & Heath, 2020). In the literature, a distinction is made between a most likely case design and a least likely case design. A most likely case design allows to gain an in-depth understanding of the phenomenon of interest (Brady & Collier, 2010). This is often viewed as the strength of the most likely case design. However, the limitation of this design is that the transferability of the results is limited. Transferability refers to whether the results are transferable to other contexts and cases (Bryman, 2012). On the contrary, the strength of a least likely case design is its transferability. A least likely case design, namely, follows the inferential logic of the "Sinatra inference": if a theory can make it here, it can make it anywhere (Levy, 2009). In order to answer the second empirical research question regarding how social class-related factors shape environmental willingness, using a most likely case design is seen as the more appropriate choice. The main goal of this study is not to transfer the results to other contexts and cases, but to study a single case in depth to understand how social class-related factors shape environmental willingness (Brady & Collier, 2010). This is a specific strength of the most likely case design, and in view of the research questions and goals, this strength outweighs the weakness of limited transferability.

Following the logic of the most likely case, the Netherlands is selected as the most likely case for social class differences to emerge regarding environmental willingness. Recently, The Netherlands Institute for Social Research (SCP) concluded that there are large differences between social classes in the Netherlands (Vrooman et al., 2023). Individuals their societal position depends on the amount of economical, social and cultural capital that they have. Furthermore, this research shows that one in six Netherlanders has a backlog in all four aspects (16.3%), while 19.9% of the Netherlands has an advantage regarding all four types of capital. Therefore, Vrooman and colleagues (2023) concluded that there is structural inequality between social classes in the Netherlands, and this has severe impacts on society. For example, lower social classes in the Netherlands have fewer chances in society, and they trust each other, politics, and the government less compared to higher social classes (Vrooman et al., 2023). While research exploring how social class shapes environmental willingness is not yet conducted in the Netherlands, studies in other countries such as Germany show that social classes differ in their attitudes toward eco-social policies (Fritz & Eversberg, 2023) and their general perspectives on climate change (Mau et al., 2023). Therefore, it was expected that in a country like the Netherlands with structural inequalities between social classes (Vrooman et al., 2023), the social class differences regarding environmental willingness would be most likely to occur. In addition, there are already indications that beliefs and attitudes regarding climate change are divided and politicized in the Netherlands (De Kluizenaar et al., 2020). Research, namely, indicates that dividedness and politicization in the Netherlands have intensified since 2019, particularly compared to other issues like migration (De Kluizenaar et al., 2020). However, this research did not investigate whether there is a social class difference regarding the dividedness and politicization regarding climate change. Furthermore, the Netherlands Scientific Council for Government Policy (WRR) (2023) concluded that the responsibilities and vulnerabilities of climate change are not equally distributed among Dutch citizens. In addition, the differences between socio-political groups regarding climate change perceptions are larger in western European countries such as the Netherlands than in central and eastern European countries (Poortinga et al., 2019). To sum up, based on these aspects of the context of the Netherlands in relation to social class and attitudes towards climate change, it expected that social class related differences regarding environmental willingness are most likely to occur in the Netherlands. Therefore, the Netherlands is an appropriate choice for in-depth analysis.

Within the most likely case of the Netherlands, the two social classes are selected that are most likely to distinct regarding environmental willingness. The same logic as for selecting the

Netherlands applies to selecting the most likely social class to be distinct regarding environmental willingness. It allows for a deep investigation of the multiple, complex factors related to social class that shape environmental willingness (Brady & Collier, 2010). This rationale aligns with the goal of this study. As described in the theoretical framework, previous research has shown the causes and effects of the relationship between social class and multiple dimensions of environmentalism (Kenny & Langeasther, 2023; Gifford & Nilsson, 2014; Fritz & Eversberg, 2023). However, it does not explore the processes at the individual level that connect the causes with the effects (Ekström, 1992). Selecting the social classes that exhibit the most distinct attitudes towards environmental willingness within a context characterized by social class differences and dividedness regarding climate change, allows to identify the shaping factors. Even though most likely cases are less transferable to other contexts, it can be argued that the in-depth exploration of the Dutch context might be transferable to other western, high-income European countries, because research has demonstrated that these countries show similar trends regarding climate change attitudes in relation to different socio-political groups (Poortinga et al., 2019; Arıkan & Günay, 2021).

Furthermore, the focus on mitigation measures is also based on a most likely case logic. Mitigation measures, namely, include a message of a moral imperative to make individual sacrifices for the common good, while adaptation messages often directly link action to personal benefits (Howell et al., 2016). Therefore, individuals are more likely to resist mitigation measures as people prefer personal benefits over sacrificing their personal benefits (Howell et al., 2016). Personal mitigation measures often include reducing carbon-intensive behaviors such as driving a car and eating meat. This implies that climate change is human-caused. This assumption also leads to more resistance towards mitigation measures, as not everyone believes in human-caused climate change. This assumption does not underpin adaptation measures. Adaption measures only require the belief that the climate is changing (Howell et al., 2016). In addition, carbon-intensive behavior like driving a car or eating meat are often strongly tied to someone's self-identity (Graham & Abrahamse, 2017; Howell et al., 2016). Therefore, changing these behaviors can be perceived as a personal attack. Therefore, people strongly resist mitigation measures (Graham & Abrahamse, 2017; Howell et al., 2016). To sum up, mitigation measures tend to generate more resentment among people compared to adaptation measures. Therefore, it is expected that social class related differences in relation to environmental willingness will especially occur with regard to mitigation measures. In addition, this research focuses on mitigation measures due to practical reasons, because the existing

national and international climate change policies mainly focus on mitigation measures (Klein et al., 2005). Examples of personal mitigation measures to reduce climate change can be found in Appendix B. Therefore, it is expected that social class related differences regarding environmental willingness are most likely to occur by examining mitigation measures instead of adaptation measures.

3.3 Opting for a sequential mixed-methods design?

More than a century ago, Max Weber built a bridge between the quantitative and qualitative approaches within social science and called this approach *Erklärendes Verstehen* (Explanatory Understanding) (Tacq, 2011). According to recent scholars, combining different methods has complementary strengths and non-overlapping weaknesses (Knappertbush et al., 2021). The rationale for mixing methods is grounded in the belief that neither quantitative nor qualitative methods alone are sufficient to capture the trends and details of a phenomenon (Ivankova & Stick, 2006). This combination results in a more robust analysis by taking advantage of each other's strengths (Cook et al., 2020; Ivankova & Stick, 2006). Because of this strength and the appropriateness of the method to answer the second empirical sub-questions, this study uses a sequential-mixed methods design. This means that the first quantitative stage functions as a starting point for the second qualitative research stage. The goal of the first stage is to examine the claim based on the literature that socio-cultural (semi-)professionals and production workers are the most distinct social classes regarding environmental willingness. Based on the findings of the first stage, the two most distinct social classes will be selected. The goal of the second stage is to unravel the social class-related factors that shape this distinction.

As it is not yet researched how social class shapes environmental willingness, this study has an exploratory character. Due to this exploratory character, the qualitative stage is not approached through the lens of deduction, because this would limit the room for surprising findings (Timmermans & Tavory, 2012). An inductive approach would be better suited to provide room for surprising elements. However, scholars have labeled this approach as problematic. It suggests a form of naïve empiricism that ignores the inevitable contribution of pre-existing theoretical ideas (Klag & Langley, 2013). Therefore, the second stage is approached through abductive reasoning: combining both deductive and inductive approaches (Klag & Langley, 2013). According to Klag and Langley (2013), it implies a reasoning process in which ongoing observations lead to some kind of surprise by generating alternative explanations and the production of conjectures about how the puzzling observations might be explained. This

constitutes an iterative analytical process through constant comparison and going back and forth between theoretical expectations and empirical observations (Klag & Langley, 2013; Timmermans & Tavory, 2012). The theoretical expectations formulated in the previous chapter are thus turned into an empirically grounded explanatory framework. The quantitative step will be further discussed in section 3.4 and the qualitative step in 3.5.

3.4 The quantitative step

In the quantitative step, the data collection is first explained. Secondly, the data selection and operationalization of the outcome variable, the explanatory variable, and the control variables are extensively discussed. Lastly, the data analysis is discussed by focusing on descriptive statistics (comparing means) and inferential statistics (multiple linear regression analysis).

3.4.1 Data collection and description

For the quantitative step, data is used from The European Social Survey (ESS) round 10, edition 3.2. The ESS is an academically driven cross-national survey (ESS, 2020). Due to its focus on changing public attitudes and values, such as climate change, and the inclusion of social indicators such as occupational class, this dataset is very suitable for the purpose of this study. Besides that, the ESS also uses high quality standards in its methodology (ESS, 2020). Therefore, these data provide a rather robust basis for the quantitative analysis of this study. In addition, other datasets were explored, such as the LISS panel. However, these datasets did not include variables to examine social class and environmental willingness. Therefore, the ESS data was the most appropriate dataset to examine what the most distinct social classes are regarding environmental willingness in the Netherlands.

Furthermore, the data was collected using a random probability sampling technique (ESS, 2020). The data collection in the Netherlands took place from October 25, 2021, until April 26, 2022. Due to the COVID-19 pandemic, the one-hour interview was conducted online. The response rate in the Netherlands was 49.8 percent (ESS, 2020).

3.4.2 Data selection and operationalization

Before discussing how the variables are operationalized and recoded, the data was prepared by filtering out all the missing values of the included variables. This included the following categories: not applicable, refusal, don't know, and no answer. When other values are filtered out, they are mentioned in the specific operationalization and recoding process of the variable.

Firstly, *environmental willingness*, the outcome variable, is operationalized by asking the respondent *to what extent they feel a personal responsibility to reduce climate change*. A feeling of personal responsibility is related to environmental willingness and is needed to achieve meaningful mitigation (Brody et al., 2012). To measure environmental willingness, an eleven-point scale was used, varying from 0 to 10. Zero means that the respondent feels not at all personal responsible to reduce climate change, and ten means that the respondent feels a great deal of personal responsibility to reduce climate change.

Secondly, *social class*, the explanatory variable, is conceptualized following the classification scheme of Oesch (2006). The variable of social class has the following categories: self-employed professionals and large employers (1), small business owners (2), technical (semi-)professionals (3), production workers (4), (associate)managers (5), clerks (6), socio-cultural (semi-)professionals (7), and service workers. The 8-class scheme is used instead of the 5- or 16-class scheme as it balances between empirical finesse and solidity.[7] The specific construction of this variable can be read in Appendix C.

Lastly, several socio-demographic variables are operationalized to be used as control variables. L*evel of education* is operationalized as the academic literature shows that education level influences multiple dimensions of environmentalism and related perceptions (Poortinga et al., 2019; Bouman et al., 2020; Kenny & Langeasther, 2023; Otto & Gugushvili, 2020; Elliott, 2013; Meyer, 2015). In addition, production workers hold mostly basic or intermediary degrees, whereas socio-cultural (semi) professionals are often "higher" educated (Damhuis & Westheuser, 2024). In the ESS dataset, the variable regarding the level of education in the Netherlands has 18 different categories. Each category contains a different education level in the Netherlands. Therefore, the operationalization of level of education is based on a modified version of the operationalization of Statistics Netherlands (CBS). This CBS operationalization is based on the Standard Educational Classification (in Dutch: Standaard Onderwijsindeling (SOI)). Therefore, three different educational levels are distinguished: low, intermediate, and high (Pleijers & De Vries, 2021). The choice for distinguishing three levels of education is

[7] Choosing a 16-class scheme would make the social classes relatively small; therefore the results of the multiple linear regression analysis would be less reliable. On the other hand, the 5-class scheme would not have this problem. However, this scheme would provide a narrow view of the class map. This would make it hard to explore the social class-related distinctions. Therefore, distinguishing eight different social classes is seen as the most appropriate choice.

based on adjacent literature that explores the relationship between levels of education and climate change attitudes (Fritz & Eversberg, 2023; Kenny & Langsæther, 2023). Furthermore, gender is also related to both social class and environmental willingness. Women often engage in more pro-environmental behavior compared to men (Bouman et al., 2020; Kenny & Langeasther, 2023; Otto & Gugushvili, 2020; Elliott, 2013). In addition, women are overrepresented in occupations such as nursing, teaching, and social work (Raišienė et al., 2021). These are typical occupations of socio-cultural (semi-)professionals. In contrast, men are overrepresented in occupations such as construction workers and truck drivers, which are typical occupations of production workers (Thomason, & Bernhardt, 2020). *Gender* is operationalized by asking the respondents how they identify themselves by choosing between male (1), female (2), or no answer (3). None of the respondents chose to not answer this question. Therefore, this variable has no missing values. Gender is then recoded into a dummy variable consisting out of 0 (male) and 1 (female) .Additionally, research shows that younger people are more environmentalist regarding multiple dimensions of environmentalism compared to older people (Poortinga et al., 2019; Bouman et al., 2020; Kenny & Langeasther, 2023; Otto & Gugushvili, 2020; Elliott, 2013; Meyer, 2015). Research shows that older people are more integrated into existing social orders than younger people. Therefore, older people have more to lose from changes due to climate change mitigation compared to younger people (Poortinga et al., 2019). *Age* is operationalized by calculating the age of the respondents by asking their date of birth. The youngest respondent is 16 years old, and the oldest respondent is 90 years old. After that, the variable is recoded into different age groups to calculate the means of environmental willingness per age group. Therefore, the following seven groups were constructed: 16-26 years old (1), 26-36 years old (2), 36-46 years old (3), 46-56 years old (4), 56-66 years old (5), 66-76 years old (6) 76-86 years old (7) and 86 years and older (8). Another variable of *age* was constructed to be used in the multiple linear regression analysis, because it is more appropriate to treat *age* as a continuous variable within a multiple linear regression analysis.

3.4.3 Data analysis

To answer the first empirical sub-question, this study makes use of descriptive statistics and inferential statistics. First, the means of the variable *environmental willingness* will be calculated per social class using R and R Studio (descriptive statistics). This will be compared to the means of *environmental willingness* per *level of education*, *gender*, and *age group*. Second, several multiple linear regression analyses will be conducted using R and R Studio

(inferential statistics). The first analysis is a linear regression that only includes *social class* and *environmental willingness*. In the second multiple linear regression analysis, there is controlled for the *level of education*. *Gender* and *age* are added as control variables in the third multiple linear regression analysis. Before conducting the regression analyses, the five assumptions[8] for conducting a reliable multiple regression analysis were tested. These five assumptions were all met for the three analyses.

3.5 The qualitative step

Based on the quantitative step, the two most distinct social classes regarding environmental willingness are selected: socio-cultural (semi-)professionals and production workers. The difference in means between socio-cultural (semi-)professionals and production workers is the largest compared to the other social classes. Furthermore, the difference in means of the most distinct social class is larger than the most distinct groups compared to other socio-demographic variables. In addition, multiple linear regression analysis shows that when production workers are the reference category, they are most distinct form socio-cultural (semi-)professionals compared to other classes. The results of the descriptive analysis and the multiple regression analyses are described and explained more thoroughly in the results chapter (Chapter 4).

In the following paragraphs, the data strategy for the qualitative step is further discussed. The first paragraph contains a description and explanation of the sampling procedure and data collection for the qualitative step. In the second section the use of semi-structured interviews is explained. The third and fourth sections contain a description and reflection of aspects of research ethics, such as choice regarding the research setting, limiting the social desirability bias, and reflection on the positionality of the researcher. The last section contains a description and explanation of the data analysis and techniques that are used for the qualitative step.

[8] The five assumptions involve: testing whether the relationship between the dependent variable and the independent variable is linear (A1); examining whether the observations are independent of each other (A2); exploring whether the variance of the errors is constant across all levels of the independent variable (homoscedasticity) (A3); assessing whether the residuals are normally distributed (A4); and examining whether the variables do not strongly correlate with each other (multicollinearity) (A5).

3.5.1 Sampling procedure and data collection

A convenience sampling technique was both used to recruit socio-cultural (semi-)professionals and production workers. While convenience sampling has its limitations, such as limited external validity due to its non-probability sampling technique, it was selected for its strengths of gaining easy access to the specific social classes of interest (Bryman, 2012). A convenience sampling technique is seen as an appropriate choice to reach and gain access to hard-to-reach and disadvantaged groups (Bonevski et al., 2014). The social network of the researcher was namely homogenic because it exists mostly out of socio-cultural (semi-)professionals and no production workers. This is reflected in section 3.5.4 about the positionality of the researcher. In addition, in some cases, the convenience sampling technique was combined with a snowball sampling technique to recruit production workers. Snowball sampling includes a non-probability sampling method where new participants are recruited through participants who are already included in the study (Bryman, 2012). Furthermore, snowball sampling has similar strengths and weaknesses compared to the convenience sampling technique.

In addition, a non-probability sampling technique also fits the exploratory and qualitative nature of this research step (Bryman, 2012). For the reason that the goal of this study is not to have a representative sample of the population. The goal is to explore in-depth how social class-related factors shape environmental willingness. Therefore, the convenience sampling and snowball techniques are combined with a maximum variation (heterogeneity) sampling technique (Suri, 2011). This means that a diverse range of participants were included that differed in socio-demographic and political characteristics such as educational level, gender, age, political preferences, region of birth, and region of residence. In Appendix D, the socio-demographic and political characteristics included in this study can be read. This diversification of the recruited participants also helps to limit biases.

The participants were recruited by directly inviting acquaintances of the researcher who work in typical occupations of socio-cultural (semi-)professionals to be interviewed. This was done by sending a personal text with an information flyer about the study (see Appendix E). Close relatives and friends were not approached to avoid bias. To recruit production workers, the same personal text was sent to family, friends, and acquaintances with the question of whether they personally know a production worker and want to bring the researcher in contact with them. In addition, a labor union (FNV) was approached to spread the information flyer within their organization in order to recruit production workers. In the end, only one participant was

recruited through the union, and the other ten participants were recruited via the personal networks of family members, friends, and acquaintances of the researcher.

After 22 interviews in total (11 with socio-cultural (semi-)professionals and 11 with production workers), saturation was reached. This means that no new themes and patterns emerged from the data (Bryman, 2012). The length of the interview varied between 20 minutes and 2 hours. However, those interviews were the exception rather than the rule. The majority of the interviews lasted 50 - 60 minutes. The interviews took place from April, 7, 2024 until May, 14, 2024.

Furthermore, the interviews were recorded and transcribed afterwards. Before starting the recording, the participants were explicitly asked if they agreed to be recorded. This was also mentioned when the interviewee was invited to participate. Asking for consent to be recorded was also part of the informed consent. In addition, informed consent entails that the researcher explicitly informs the participants about the purpose of the study and what will be done with the data (Khan et al., 2021). It was also explained to the interviewees that this study will treat the data with confidentiality and will ensure the anonymity of the participants. In addition, the researcher emphasized that the interviewees were never obliged to answer a question and could stop at any moment during the interview (Khan et al., 2021). Besides a verbal explanation of the informed consent, the informed consent was also written in a so-called informed consent form. The interviewees were asked to read and sign the form before the interview started. This informed consent form can be found in Appendix F.

3.5.2 Semi-structured interviews

The interview guide is structured in accordance with the three identified factors: cognitive, material and cultural. The questions are discussed per section of the interview guide. It is important to note that the questions were originally asked in Dutch. The interview guide can be found in Appendix G.

The first part of the interview is focused on the cognitive factors that shape environmental willingness. The goal of this part of the interview is to investigate whether the participants can make a cognitive connection between their beliefs in human-caused climate change and how this relates to their own behaviors such as flying and eating meat (Bateman & O'Connor, 2016). The questions are derived from studies into mental models that underpin what people know, believe, and feel about climate change (Howell et al., 2016; Bostrom et al., 1994). In these studies, people were asked open and broad questions about their images and feelings regarding

concepts of climate change. The aim of asking open and broad questions it to allow participants to express their thoughts, associations, and feelings regarding climate change freely. This allows the researcher to uncover a wide range of responses to gain deeper insight into the beliefs of the participant. This is preferred over asking the participants directly and explicitly whether they connect climate change and its consequences to their own behavior. It allows participants to share their thoughts on whether climate change was human-caused, natural-caused or non existent. Therefore, a high risk of retrieving socially desirable answers is avoided by asking the following question: *What comes to mind, when I say "climate change?"* This question was followed by asking what the respondents feelings and thoughts are about these images (Howell et al., 2016). In addition, the participants were asked *what comes to mind when I say "consequences of climate change?"* The participants were again asked to share their thoughts and feelings about these images. Depending on their answers, follow-up questions were asked.

The second part of the interview guide relates to both material factors and cultural factors. The participants were asked whether they were willing to engage with a specific type of climate mitigation measure. The goal of this part of the interview is to gain insight into how the participants justify their green or non-green behavior. Participants can use justifications that are more materially driven as well as more culturally driven. The mitigation measures that were asked (e.g. willing to reduce flights, meat consumption) are based on the academic literature relating to climate change mitigation (Howell et al., 2016; Elliot, 2021). All the mitigation measures that were asked are included in the interview guide (Appendix G). Depending on the answers, follow-up questions were asked.

The third part of the interview guide relates only to cultural factors. This part focuses on whether a "green divide" is present between socio-cultural (semi-)professionals and production workers by asking *how you perceive people who do or don't take a lot of personal action to reduce climate change.*

The fourth part of the interview guide is structured around material factors. The included interview questions build further on the work of Fouad and colleagues (2012), who developed an interview guide to understand the work and career development of working class members. Besides questions about the work of the participant, the interview guide also includes questions about the work of the parents of the participants and their level of educational to understand the environment in which the participant was socialized. Furthermore, several questions were also asked to discover whether participants had encountered financial struggles in their lives. These questions are asked to understand if the participants have faced challenges such as poverty that

shaped their environmental willingness. Furthermore, topics such as financial struggles can be perceived as sensitive by the participants (Tourangeau & Yan, 2007). In some cases, it feels more "private and secure" for the participants to fill out a questionnaire regarding sensitive questions than to do so directly towards the researcher (Tourangeau & Yan, 2007). Therefore, the participants were asked to fill out a questionnaire with seven questions about their socio-demographic and political background after the interview was conducted. This questionnaire also included a question regarding subjective income. This questionnaire can be found in Appendix H and the questions asked are similar to the questions of the European Social Survey (ESS) round 10 (2020).

Furthermore, the order of the questions in the interview guide is slightly different compared to the order of factors presented in the theoretical framework. The interview guide, namely, starts with questions relating to cognitive and cultural factors instead of material factors. It is expected that participants feel more comfortable sharing their thoughts and feelings regarding climate change and green lifestyles than about work and financial struggles. Therefore, it has been decided to structure the interview guide in such a way that the material factors are explored at the end of the interview. It is expected that the researcher and participant will have developed a more trustworthy relationship at the end of the interview than at the beginning. In addition, the interview will not immediately start with posing questions relating to cognitive factors. Instead, to break the ice and find common ground, the researcher first talked about mundane statements such as memories of growing up in a particular region or what the participants like to do in their spare time (Damhuis, & de Jonge, 2022).

Furthermore, the interview guide is consciously structured, but semi-structured interviews also allow for division from the guide. Flexibility is namely needed to gain the trust of the participants and to gain access to their subjectively most relevant perceptions about environmental willingness (Ritchie & Lewis, 2003). Furthermore, a semi-structured interview allows to elaborate on unexpected answers during the interview that might contribute to a better theoretical understanding and allows to ask follow-up questions that were not included in the interview guide before hand (Ritchie & Lewis, 2003).

3.5.3 Research setting and social desirability

According to Fox (2009), the setting in which the interview is conducted, can influence the responses of the participants regarding the social desirability bias. Social desirability refers to the tendency of participants to present reality to align with what is perceived to be socially

acceptable (Bergen & Labonté, 2020). Research has demonstrated that there is social pressure to conform to the social norm of being environmentally friendly (Félonneau & Becker, 2008). Therefore, some participants conform to the current norms rather than expressing their true normative adherence. To limit this social desirability bias, the interviews ideally took place in the living room of the participants' residence. This ensures a private and comfortable atmosphere to speak freely for the participant. This decreases the likelihood of socially desirable answers (Fox, 2009; Bergen & Labonté, 2020). In addition, the residences of participants can provide relevant nonverbal information, such as books, paintings, photos in the living room, or the absence of them (Damhuis & de Jonge, 2022). This can help to form a more comprehensive picture of the participant. However, not all the participants felt comfortable in their home, for example, due to the presence of housemates. In these cases, the interview was held in a public place, such as a coffee shop. When the interview was conducted in a coffee shop, the researcher went early to the place to find a table where nobody was within earshot in order to make sure that the participant could speak openly (Damhuis & de Jonge, 2022). However, this was not always within the control of the researcher.[9] In some cases, the interviews were conducted online, as it was not possible to reach certain remote areas with public transport. This might have influenced the results, because it is more difficult to read certain non-verbal cues (Bergen & Labonté, 2020). To sum up, the interviews were conducted in diverse settings, which can impact the results. However, it was important to be flexible regarding the location and to leave the final choice of the meeting location up to the participant (Damhuis & de Jonge, 2022).

As stated earlier, the preference for conducting the interview in the living room of the participant is tied to strategies to limit the impact of the social desirability bias. In addition, other strategies to limit the impact were also used in this study. These strategies focus on the interview process itself and the relationship between the researcher and participant. For example, instead of asking direct questions, the researcher sometimes asked indirect questions to start the conversation about a specific subtopic. To allow the participant to express themselves freely. Afterwards, more direct questions were asked to gain specific insights into

[9] For instance, at the end of the interview with Nick (car mechanic (P20)), an older couple took a seat at the table next to the researcher and participant. At this moment, Nick told the researcher that he grew up in poverty and was therefore happy that Frans Timmermans, the party leader of GroenLinks, did not win the previous elections. He felt that Timmermans would not help people who have financial struggles. Instead, Nick believed that Timmermans would only focus on reducing climate change at the expense of people with financial struggles. The old couple said to each other, but loud enough that Nick and the researcher could hear it, that it was ridiculous what Nick said. In their opinion, Timmermans was actually the person who stood up for people in precarious living situations. The researcher gave Nick a glance of insurance to show that she heard the comments too. Fortunately, the last question of the interview was already posed, so the situation did not have a large impact on the relationship between the participant and the researcher or the results.

a subtopic. In addition, when the participant provided incomplete answers, the researcher probed for more details. This was done by requesting stories or examples to encourage the participant to elaborate in more detail regarding a question (Bergen & Labonté, 2020).

3.5.4 Positionality

In addition to the social desirability bias, responses of the participants can be influenced by the positionality of the researcher. This can influence both the interactions with the participant as the research process (Bourke, 2014). At a first glance, the personal background of the researcher seems to display a lot of similarities with the social, cultural and economic background of socio-cultural (semi-)professionals rather than production workers. For example, the researcher attended university, as did her parents and her brother. Furthermore, both her parents work in typical occupations for the class of social-cultural (semi-)professionals. In addition, the researcher strongly identifies with pro-environmental attitudes and adjusts her behavior to limit CO_2 emissions. To conclude, the personal background of the researcher might make her feel more comfortable and similar to socio-cultural (semi-)professionals than to production workers.

Therefore, as mentioned earlier in section 3.5.1, it was easier for the researcher to reach out to social-cultural (semi-)professionals, because the majority of her social network existed of this social class. In addition, the socio-cultural (semi-)professionals that were interviewed are the friends of the researcher her parents or they were parents of friends of the researcher herself. This made the participants more willing to participate in the interview, and it allowed the researcher to gain their trust more easily. Due to the homogeneity of the researcher's network, it was harder to get in contact with production workers. The researcher contacted a lot of family members, friends, and acquittances with the question of whether they could bring her in contact with, for example, electricians and car mechanics. Therefore, the required production workers were not recruited from the personal network of the researcher. Hence, the researcher did not meet the majority of the production workers before. So, the researcher had to establish a confidential relationship with them. Therefore, it was important to decrease the social distance between the researcher and the production workers. As several production workers lived in Brabant, the researcher told them before or during the interview that she grew up in Brabant as well. This helped by establishing a connection and emphasizing the similarities rather than the differences. However, there were a few times that the positionality of the researcher possibly influenced the interview process. For example, one production worker directly addressed her positionality during the interview. He stated that the researcher had a bright future in front of

her, because she was graduating from university. He felt that when you have a diploma from an university, you will get a great job and a great salary. The production worker stated that when the researcher had been a painter, the story would have been completely different. This is an example of how the positionality of the researcher was directly addressed. There were also a few times that the researcher's positionality played an implicit role. For example, the interviews with the social-cultural (semi-)professionals started with a shared understanding that climate change is human-caused. This was not always said out loud but served as a starting point for the research. However, whether climate change is human-caused, natural-caused, or does not exist was up for debate during the interviews with some production workers. One of the production workers argued that climate change is naturally caused and that human behavior does not influence it. However, it felt like a confession when he explained his beliefs. The researcher tried to deal with this situation by creating an atmosphere without judgement. In other cases, the researcher tried to connect with the production worker by making a joke. For example, a production worker asked the researcher whether she was a vegetarian herself. The researcher told him that she did not eat a lot of meat but that she could never refuse a chicken satay with fries. The production worker laughed really hard. Afterwards, he explained to the researcher how he would never stop eating meat. By making this joke, an atmosphere was created whereby the production worker felt comfortable sharing his beliefs and feelings about reducing meat consumption.

Furthermore, the positionality of the researcher did not only influence the interview process with production workers but also with socio-cultural (semi-)professionals. For example, a socio-cultural (semi-)professional expressed that she felt guilty about her flight to England. The researcher got the feeling that the participant wanted to justify her "bad" behavior, because of her presence. Therefore, the social desirability bias and the positionality of the researcher influenced the responses. In addition, to decrease the social distance between the researcher and the production workers, the researcher carefully considered her clothing choices. Clothes, namely, signal symbolic meanings ranging from chic to sport or from sober to extravagant (Damhuis & de Jonge, 2022). As production workers tend to have different tastes in clothes compared to a master student, the researcher wore clothes that were as 'neutral' as possible (e.g., t-shirt, jeans and white sneakers) (Damhuis & de Jonge, 2022). To present herself less as an academic researcher, the researcher wore a denim jacket. When the researcher interviewed the socio-cultural (semi-)professionals, she slightly adapted the outfit to the participant and the circumstances by not wearing the denim jacket.

3.4.5 Data analysis

After recording the semi-structured interviews, the interviews were transcribed.
The transcripts are analyzed through a thematic narrative analysis. A thematic narrative analysis is a method for analyzing qualitative data that involves the identification of patterns within the collected data. These thematic patterns are then interpreted for their inherent meaning (Naeem et al., 2023). The thematic narrative analysis is conducted following an abductive approach. As described earlier, abduction combines both deductive and inductive approaches (Klag and Langley, 2013).

The first coding round contained an open coding process: a process that starts with breaking down, examining, comparing, conceptualizing, and categorizing the data by using open codes (Boeije, 2010). With a lens of theoretical sensitivity, the second round of axial coding was conducted. The data was put back together in new ways by making connections between categories and themes (Boeije, 2010). The third round of coding is called selective coding (Boeije, 2010). This can be understood as a process of bricolage that tries to make a conceptual leap —a process where a conceptual insight emerges from the data (Klag & Langley, 2013). During the whole process, the analysis is conducted with sensitivity to the formulated theoretical expectations. Therefore, during the analysis, data was approached through the theoretical lens of cognitive, material and cultural perspectives. At the same time, the theoretical lense is sometimes placed aside, to give room for unexpected phenomena to emerge. This coding process thus involves both inductive and deductive approaches and is inherently iterative and recursive (Klag & Langley, 2013).

3.6 Quality criteria for mixed-methods research

This study entails both quantitative and qualitative research elements. Therefore, the quality of this study needs to be assessed using both quantitative and qualitative quality criteria (Bryman et al., 2008). A specific quality criteria for mixed-methods research is to provide the rationale for using a mixed-methods design and how this methodological choice properly addresses the research problem and questions (Fàbregues & Molina-Azorín, 2017). This is described in section 3.3. Furthermore, the quantitative and qualitative research steps need to adhere to the quality criteria of each tradition (Fàbregues & Molina-Azorín, 2017). In the next paragraphs, the quality criteria for the quantitative step and the qualitative step are discussed separately.

3.6.1 Quality criteria for the quantitative step

According to Bryman (2012), reliability, validity, and replication are the most prominent criteria for the evaluation of quantitative research. Reliability in research pertains to whether the results of the study are repeatable. Therefore, reliability is concerned with issues of the consistency of measures (Bryman, 2012). For the quantitative step, data was derived from the European Social Survey (ESS) round 10. To ensure that the ESS data is collected using the highest methodological standards, several quality assessment activities were undertaken by the ESS Core Scientific Team (ESS, n.d.). With regard to the reliability of single questions, a Multitrait-Multimehtod (MTMM) approach was used to test the questions. This approach also assesses the validity of the dataset. Validity is concerned with the issue of whether an indicator that is devised to gauge a concept really measures that concept (Bryman, 2012). The reliability and validity are assessed by the MTMM by asking the same respondents three survey questions measuring different concepts of interest twice, using a different response scale each time (ESS, n.d.).

Furthermore, external validity refers to "the degree to which findings can be generalized across social settings" (Bryman, 2012, p. 390). The ESS data from the Netherlands was collected using a random probability sampling technique (ESS, 2020). This enhances the external validity as the sample is representative of the population, where the results need to be generalized too. Furthermore, respondents were randomly assigned to the sample, which minimizes the chance for a selection bias to occur (Bryman, 2012). In addition, external validity can also be understood as generalizability to other contexts. It is possible that the socio-cultural (semi-)professionals and the production workers are also the most distinct classes in other western-European[10] countries that have similar demographical, socio-economical, and cultural characteristics compared to the Netherlands (Poortinga et al., 2019). However, this is not the goal of the research, because the quantitative step is used to identify the most distinct social classes in the Netherlands. This functions as a starting point for an in-depth, qualitative exploration of the social class-related factors that shape this distinction. Furthermore, internal validity is concerned with the question of causality (Bryman, 2012). The internal validity of this study is limited as descriptive statistics and multiple linear regression analyses are not the appropriate method to establish causal relationships. In addition, exploring the causal relationship between social class and environmental willingness is not one of the goals of this

[10] Mau and others (2023) demonstrated that the socio-cultural (semi-)professionals and the production workers are also the most distinct social class regarding several dimensions of environmentalism in Germany.

study. The quality of quantitative research is also assessed by whether it is replicable or not (Bryman, 2012). To provide the opportunity for other researchers to replicate this study, each step and choice regarding the design, the operationalization of variables, the method, and the analysis is reported in a transparent way (Bryman, 2012).

3.6.2 Qualitative criteria for the qualitative step

The meaning of criteria like reliability, validity, and replicability has largely been developed within quantitative research (Bryman, 2021). Therefore, Lincoln and Guba (1985, 1994) argued that the quality of qualitative research needs to be assessed by alternative criteria that are applicable to the goals and nature of qualitative research (Bryman, 2012). According to Lincoln and Guba (1985, 1994), the trustworthiness[11] of qualitative research can be assessed by the following four criteria: credibility, transferability, dependability, and confirmability (Bryman, 2012). Firstly, establishing the credibility of the findings refers to both ensuring that the research is carried out in an ethical way and following the canons of good practice. In addition, credibility is concerned with gaining the confirmation of members of the social world who were studied that the researcher has "correctly understood" the social world (Bryman, 2012). In this research, credibility is ensured by transparent and reflexive reporting of the choices made regarding the research design, sampling procedure, participant recruitment, and analysis. Furthermore, by asking follow-up questions or questions for clarification during the semi-structured interviews, the researcher checked with the participants whether she "correctly understood" the social world (Bryman, 2012). To ensure the trustworthiness of the study, a thick description was provided by reporting the quotes of the participants in the results section (Schwartz-Shea, 2013). Furthermore, pauses, laughs, and other verbal cues were written down in the transcripts to create a thick description of the interview. In addition, after the interview was conducted, the researcher made field notes about specific events that occurred during the interview in order to embed the interview in the specific context in which it was conducted.

Secondly, the provided thick description also allows others to judge whether the results are transferable to other contexts (Bryman, 2012). As stated in section 3.2, choosing a most likely design limits the transferability of the study in contrast to a least likely design. However, transferring the results to other contexts is not one of the main goals of this study. As stated

[11] Lincoln and Guba (1985, 1994) also suggested the criteria of authenticity. However, researchers view these criteria as thought-provoking. Therefore, it has not been widely used to assess the quality of qualitative research (except within action research) (Bryman, 2012). Therefore, the criteria underpinning authenticity were not included in this study.

earlier, a most likely case design allows for an in-depth understanding of how social class-related factors shape environmental willingness (Brady & Collier, 2010). Thirdly, dependability implies that the researcher kept records of all phases of the research process (e.g., problem formulation, selection of research participants, fieldwork notes, interview transcripts, and data analysis decisions) (Bryman, 2012). This has also been done for the current study in order to justify the decisions made. Lastly, confirmability is concerned with ensuring that the researcher has acted in good faith and that personal values did not sway the conduct (taking into account that complete objectivity is impossible in social research) (Bryman, 2012). This is done by including the researcher' positionality statement in order to be transparent about her own position and personal values regarding the topic of social class and environmental willingness. In addition, during and after the interviews, the researcher reflected on how her positionality might have influenced the responses of the participants by providing examples of such moments.

3.7 Conclusion

To conclude, Chapter 3 included a rich description of the design and methodological choices that underpin this study. Design choices, data description and collection, and data analysis were separately discussed for the quantitative step as well as for the qualitative step. This chapter also included the data quality criteria for mixed-methods research.

4 Results

4.1 Introduction

This chapter contains the results of the quantitative step and the qualitative step. The first empirical sub-question regarding *which social classes are the most distinct regarding the willingness of people to mitigate climate change* is answered by using both descriptive statistics (comparison of means) and inferential statistics (multiple linear regression analysis). To answer the second empirical sub-question regarding *how social class related-factors play a role in shaping the willingness of people to take personal action to mitigate climate change*, semi-structured interviews with socio-cultural (semi-)professionals and production workers were conducted. The interviews were analyzed using a thematic narrative analysis in an abductive way. Firstly, the results of the quantitative step are discussed, as this step functions as the starting point for the next, qualitative step. Secondly, the results of the qualitative step are discussed.

4.2 Results of quantitative analysis

Before comparing the means regarding environmental willingness per social class, the descriptives of all the included variables were reported. The descriptive statistics can be found in Appendix I. Afterwards, the mean scores of environmental willingness per social class were examined. Socio-cultural (semi-)professionals have the highest mean score of 7.17 with regard to environmental willingness. Surprisingly, this mean score is slightly higher than the mean score of 7.13 regarding the environmental willingness of the self-employed professionals and large employers. Moreover, the production workers have the lowest mean score of 5.86 regarding environmental willingness.[12] The mean score of environmental willingness per social class is displayed in table 2.

[12] The differences between production workers and socio-cultural (semi-)professionals are even larger when the 16-class classification of Oesch (2006) is used. The two most distinct social classes are then the low-skilled manual workers (M = 5.52) and the socio- cultural semi-professionals (M = 7.21). Together with the skilled manual workers (M = 6.02) form the low-skilled manual workers, the class of production workers within the 8-class classification of Oesch (2006). In addition, the socio-cultural professionals (M = 7.08) form, together with the socio-cultural semi-professionals the social class of socio-cultural (semi-)professionals within the 8-class classification.

Table 2

Mean score of environmental willingness per social class (from highest to lowest score)

Social class	Mean score of environmental willingness
Socio-cultural (semi-)professionals	7.17
Self-employed professionals and large employers	7.13
(Associate) managers	6.99
Technical (semi-)professionals	6.75
Clerks	6.67
Small business owners	6.50
Service workers	6.41
Production workers	5.86

Furthermore, the means regarding environmental willingness are also compared for the control variables that are included in the multiple linear regression analysis. This includes the variables of *level of education*, *gender*, and *age*. Thus, the mean score regarding environmental willingness is compared per level of education, gender and age. This can be found in found in Appendix J. As social class and education are closely related, the means of the different social classes and different levels of education were compared. The mean score regarding environmental willingness for the "lowest" level of education is 6.02 and 7.12 for the "highest" level of education. Therefore, the mean difference between socio-cultural (semi-)professionals and production workers is larger than the mean difference between the "lowest" and "highest" levels of education.

In addition, several multiple linear regression analyses were conducted to explore the relationship between *environmental willingness* and *social class* more in-depth. The first model only included the outcome variable of *environmental willingness* and the explanatory variable of *social class*. The class of production workers is the reference category because, based on the literature, these workers are expected to have the lowest level of environmental willingness. The first model has an overall significant effect regarding environmental willingness (R^2 = 0.039; F(df = 7;1425) = 8.368***; p = <0.01). Therefore, the explained variance (R^2) of the overall model is 3.9 percent. Furthermore, the category of socio-cultural (semi-)professionals (b = 1.308; p = <.01) is associated with a 1.308-unit increase regarding environmental willingness compared to the production workers (reference category). When the production workers are the reference category, the increase in environmental willingness is the largest for the socio-cultural (semi-) professional compared to other social classes. This is in line with the hypothesis that socio-cultural (semi-)professionals and production workers are the most distinct social classes with regard to environmental willingness.

In addition, in the second model, *level of education* is added as a control variable. Production workers remain the reference category for social class. In addition, "low" educational level is the reference category for the *level of education* because, based on the literature, it is expected that people with "lower" levels of education are less environmentally willing. The second model has an overall significant effect regarding environmental willingness (R^2 = 0.058; F(df = 9;1423) = 9.765***; p = <0.01). Thus, the explained variance (R^2) of the overall model is 5.8 percent. Similar to the first model, the increase in environmental willingness by comparing production workers to all other social classes, is the largest compared to the category of the socio-cultural (semi-)professionals (b = 834; p = <.01). Furthermore, environmental willingness increases with a 0.791-unit when the low level of education (reference category) is compared to the high educational level (b = 0.791; p = <.01). Therefore, the difference in environmental willingness between production workers and socio-cultural (semi-)professionals is larger than the difference between individuals with the "lowest" level of education and individuals with the "highest level" of education. This is in line with the hypothesis that socio-cultural (semi-)professionals and production workers are the most distinct social classes with regard to environmental willingness. Even if the *level of education* is additionally controlled.

Lastly, *gender* and *age* are also added as control variables to Model 3. Hereby, males are the reference category for gender. Males are namely expected to score lower on environmental willingness compared to females, based on the literature. In contrast to the descriptive analysis, where age was operationalized as a categorical variable, age is operationalized in the multiple linear regression analysis operationalized as a continuous variable. The third model has an overall significant effect regarding environmental willingness (R^2 = 0.085; F(df = 11;1417) = 11.935***; p = <0.01). Therefore, the explained variance (R^2) of the overall model is 8.5 percent. However, the category of socio-cultural (semi-)professionals (b = 0.490; p = <0.05) compared to the production workers no longer portrays the largest differences regarding environmental willingness. The category of self-employed professionals and large employers (b = 0.651; p = <.05) is associated with a 0.651-unit increase regarding environmental willingness compared to the production workers (reference category). Therefore, the difference in environmental willingness is large between the self-employed professionals and large employers, and the production workers compared to the socio-cultural (semi-)professionals and the production workers. In addition, the effect sizes and significance levels of *social class* in general are lower compared to the effect sizes and significance levels regarding *level of education*. The category of high educational level is associated with a 0.932-unit increase in

environmental willingness compared to the category regarding “low” levels of education (reference category), and this effect is significant (p = <0.01). Furthermore, females score significantly higher regarding environmental willingness compared to males (b = 0.584; p<0.01). In addition, when individuals ages increase by one unit, this leads to an increase in environmental willingness of 0.011-units (p = <0.01). Therefore, this third model is not inline with the hypothesis that socio-cultural (semi-)professionals and production workers are the most distinct social classes, when they are additionally controlled for *level of education, gender* and *age*. In fact, the *level of education* has more predictive power to explain differences in environmental willingness than *social class* in the third model. The results of the three (multiple) linear regression analysis are summarized in table 3.

To conclude, the descriptive analysis of comparing means and the first two models of the (multiple) linear regression model shows that socio-cultural (semi-)professionals are the most distinct social class regarding environmental willingness. This is similar to the findings of Mau and others (2023). However, the third model shows that self-employed professionals and large employers and production workers are the most distinctive social classes regarding environmental willingness. In addition, the level of education has more predictive power regarding environmental willingness compared to social class in the third model. Nevertheless, it is decided to accept the first hypothesis that s*ocio-cultural (semi-)professionals and production workers are the most distinct social classes regarding their willingness to take personal action to mitigate climate change*, based on the descriptive analysis and the first two models of the (multiple) regression analyses. However, this result has to be interpreted with caution given the results of the third multiple linear regression model, because based on this model, socio-cultural (semi-)professionals and production workers are not the most distinct classes. Therefore, this is considered a limitation of the current study that will be extensively discussed in Chapter 5 (conclusion and discussion).

Table 3

(Multiple) linear regression analysis Model 1, 2 and 3

Variables	Model 1	Model 2	Model 3
Production workers (ref.)			
Socio-cultural (semi-)professionals	1.308***	0.834***	0.490**
Self-employed professionals and large employers	1.268***	0.793**	0.651**
(Associate) managers	1.130***	0.703***	0.517**
Technical (semi-)professionals	0.888***	0.467*	0.342
Clerks	0.805***	0.623***	0.346
Small business owners	0.643***	0.372*	0.146
Service workers	0.550***	0.450**	0.152
Low educational level (ref.)			
Middle educational level		0.323**	0.516***
High educational level		0.791***	0.932***
Male (ref.)			
Female			0.584***
Age			0.011***
Constant	5.860***	5.677***	4.959***
R^2	0.039	0.058	0.085
Adjusted R^2	0.035	0.052	0.078
Residual Std. Error	1.980	1.962	1.935
	(df = 1432)	(df = 1423)	(df = 1417)
F Statistic	8.368***	9.756***	11.935***
	(df = 7;	(df = 9;	(df = 11;
	1425)	1423)	1417)
N	1,433	1,433	1,429

Notes: *p<0.1; **p<0.05; ***p<0.01

4.3 Results of qualitative analysis

In the theoretical framework, three different social class-related factors were identified that are expected to shape environmental willingness, namely: cognitive, material, and cultural factors. This section is structured in a similar way. Per factor, a distinction can be made between the main factor that directly shapes environmental willingness and a subfactor that indirectly shapes environmental willingness through the main factors. Therefore, the main factors (MF) and subfactors (SF) are interconnected. In addition, some cognitive, material and cultural factors

are interrelated as well. All these factors and sub factors together shape in complex synergy environmental willingness.

4.3.1 Cognitive factors

In this section, it is first discussed how *political sophistication (MF)* shapes class differences relating to environmental willingness. Afterwards, it is explained how differences in political sophistication and related cognitive abilities shape perceptions regarding the *cause of climate change (SF), the problem perception (SF) and the long-term and future thinking (SF),* differently for socio-cultural (semi-)professionals and production workers.

Political sophistication (MF)

Based on the interviews, there are indications that social class differences with regard to political sophistication prevail. This difference is expressed in the distance that socio-cultural (semi-)professionals and production workers have regarding the concept of climate change. Socio-cultural (semi-)professionals feel connected to the topic of climate change. They abundantly provide examples of climate change and its consequences, using rich descriptions. Furthermore, they expressed how they follow the news regarding climate change. Socio-cultural (semi-)professionals, especially, follow the news and watch documentaries that are based on scientific reports. Willemien (religious professional (P11)) explains:

> Indeed, I also follow the news messages in that regard […] I mean, based on science, the messages come in the news, and you can say: I close my eyes for that. Yes, and I open my eyes, because I love this earth [filled] with nature.

The phrase "I open my eyes" reflects how Willemien is not prone to avoid news regarding climate change. This is similar to the findings of Lindell and Sartoretto (2018), who concluded that members of high social classes, such as socio-cultural (semi-)professionals follow the media extensively. Media exposure is one of the proxies for political sophistication. Another proxy for political sophistication is the level of education. All the socio-cultural (semi-)professionals were "highly" educated, and the majority went to university. It has been argued by Marthaler (2020), that people with many years of education are better equipped with cognitive tools to think in abstract ways. These cognitive tools, like abstract thinking, are needed to understand the phenomenon of climate change and its consequences (Trémolière & Djeriouat, 2021).

In addition, the educational background of socio-cultural (semi-)professionals might explain their belief in science as well. Socio-cultural (semi-)professionals evaluate the arguments of

others about their lack of willingness to mitigate climate change based on the reliability of the sources used that underpin these arguments. They find scientific sources in this regard the most reliable ones. Claire (elementary school teacher (P3)) stated about people who do not take personal action to mitigate climate change: "Look, if you have the evidence and the studies and the arguments for that, then that's one thing." Claire implied that people who do not take personal action often use arguments that are not derived from reliable and academic sources. This is in line with the findings of Mau and colleagues (2023). They found that the slogan "listen to the science" particularly resonates with people who themselves deal with knowledge professionally and whose status is based on education and academic qualifications, such as teachers.

The opposite applies to production workers with regard to media exposure and level of education. There seems to be a distance between the concept of climate change and how production workers relate to it. When Kees (maker of sun protection devices (P17)) was asked where "climate change" makes him think, he answered, "Me…personally nothing. No, no, I do not follow that at all. I have nothing to do with it." Later in the interview, Kees expressed that his lack of interest could possibly be explained by the level of abstraction of climate change. This resonates with the educational proxy of political sophistication (Kellstedt et al., 2019; Marthaler, 2020). Kees is "lower" educated and therefore less trained in abstract thinking. Therefore, it is possible that Kees does not have the cognitive abilities to conceptualize ideas regarding climate change in a systematic manner to deal with the abstractions (Marthaler, 2020). Furthermore, the phrase "I do not follow that at all" might refer to how Kees does not follow the news regarding climate change. This might relate to the findings of Lindell & Sartoretto (2018), that members of lower social classes are prone to avoid the news.

Furthermore, production workers did not explicitly refer to science or scientific sources. Production workers often used arguments based on what "other people say" to justify their scepticism regarding climate mitigation measures, like Nick (car mechanic):

> Because I also hear sometimes from people that they sell organic cucumbers in supermarkets but that they are exactly the same as the non-organic [cucumbers]. Only you pay forty times as much for it.

Therefore, differences in political sophistication may shape the cognitive abilities that socio-cultural (semi-)professionals and production workers have to think about the cause of climate change (SF), what the problem of climate change is (SF) and what the consequences are in the long-term (SF). This complex interplay of political sophistication and other cognitive aspects is one of the shaping forces of environmental willingness. In the next paragraphs, the sub factors

are discussed that shape social class differences in environmental willingness in interplay with political sophistication.

The cause of climate change (SF)

Mau and others (2023) found that class differences regarding perceptions of the causes of climate change prevail. This is in line with the results of the current study. All the social-cultural (semi-)professionals' belief that climate change is caused by the emissions of companies and individuals. Willemien (religious professional (P11)) explains: "You can actively help [to] reduce it, or perhaps at least slightly stop it, but not enough people are doing it yet. In my opinion, the human influence is super big." This quote not only shows that Willemien believes in human-caused climate change, but she is also convinced that people have to change their behavior to mitigate climate change. This is in line with the study by O'Connor and others (2002). They concluded that people want to reduce their emissions, if they understand that climate change is human caused.

This is in contrast to the views of production workers. Some of them believe that climate change is natural-caused. Frans (supplier (P14)) and Henk (train driver (P15)) view climate change as an "earth problem" (*aards problem*). Henk explains:

> "I think climate change, like what we're seeing now […], [is] not so much due to people. Personally, I think that it is just something that is happening on earth. […] We see that we have colder times, warmer times, and we're now on an upward climb to warmer times".

The belief that climate change is natural-caused shapes environmental willingness. For example, Frans (supplier (P14)) believes that "it doesn't make super much sense" to personally mitigate climate change as the influence of humans is limited or non-existent. It is possible that social-class differences regarding perceptions of the causes of climate change are connected to differences in political sophistication. It requires cognitive abilities to think about climate change in a systematic and abstract way (Kellstedt et al., 2019).

Problem perception (SF)

The difference in beliefs regarding the causes of climate change is related to how socio-cultural (semi-)professionals and production workers perceive the problem. Similar to the results of Mau and others (2023), socio-cultural (semi-)professionals describe climate change in quasi-apocalyptical terms. For example, Monique (nurse (P8)) stated, "That the earth is going completely to hell. Because of what we are doing." In addition, Bas (social worker (P2)) associates "climate change" with a sense of "time pressure" and "that we really, really have to do something. These two quotes reflect how socio-cultural (semi-)professionals perceive the

problem of climate change, namely as an all-encompassing and pressing problem. Furthermore, feelings of despondency were present among several socio-cultural (semi-)professionals. Monique (nurse (P8)) feels that the world will be destroyed because of climate change because the majority of people, governments, and companies are not willing to take action to mitigate climate change. During the interview, Monique started crying and explained: "I do want to talk about it; I get depressed by that, that we ruin everything."

In contrast to the socio-cultural (semi-)professionals, production workers do not perceive the problem as pressing. This possibly explains why they did not use quasi-apocalyptic terms to describe climate change and did not feel despondent. On the contrary, production workers feel that the mitigation of climate change is going too fast. Ashraf (railway electrician (P12)) explains:

> Because the Netherlands are the best students in the class in the EU, and they chop it away *(die hakken erop los)*. Suddenly everything has to change, and we have climate change goals. That we all know. […] It is going too fast in the Netherlands[13] .

In addition, the nature of the problem of climate change is also perceived different by the social classes. Socio-cultural (semi-)professionals view climate change as an ecological problem that causes extreme weather and destroys flora and fauna. However, production workers view climate change as an economic problem. This is also in line with the findings of Mau and colleagues (2023) and Huber (2022). They both concluded that the working class perceives climate change primarily as an economic problem. Climate change mitigation measures, namely, impact areas of electricity, transport, housing, and food, are the areas that constitute crucial items in the budget of lower social classes (Mau et al., 2023). This is in line with the findings of the current study. Production workers perceive climate change as a threat to their current living situation rather than a threat to nature. Ashraf (railway electrician (P12)) explains:

> Look, people who have it difficult, they just cannot invest [in mitigation measures]. Period. They also want to go on holiday, and when they [can go on holiday], then going on holiday comes first. […] Yes, those differences will always be maintained. That difference in social class.

[13] This quote also reflects how production workers in general perceive the role of the Netherlands compared to other countries. Similar to the findings of Mau and others (2023), production workers feel that the Netherlands should not be "the best boy of the class" regarding the implementation of climate change measures. Whereas socio-cultural (semi-)professionals feel that the Netherlands should have a pioneering role compared to other countries. This is also related to differences in perceptions regarding the wealth of the Netherlands. Production workers, namely, feel that a lot of Dutch citizens have difficulties making it to the end of the month, while socio-cultural (semi-)professionals view the Netherlands as a wealthy and prosperous country. However, the focus of this study is on the class-differences in people's willingness to take personal action to mitigate climate change. Therefore, this aspect is not extensively discussed.

Furthermore, production workers do not fear that their children have to grow up in a world with extreme weather circumstances and disasters, as socio-cultural (semi-)professionals are afraid of. Production workers, namely, fear a world where their children cannot live "fun" lives. For example, Frans (supplier (P14)) stated: "I have a son of three [years old], so I want that he also can live a fun life."

The social class related difference regarding problem perception explains why socio-cultural (semi-)professionals are often more willing to take personal action to mitigate climate change compared to production workers. Socio-cultural (semi-)professionals, namely, feel that personal actions like reducing flights per year or eating less meat will help protect the earth. However, production workers feel that they have to protect their standard of living by resisting climate mitigation measures that increase living costs. The social-class difference regarding problem perception can be understood from a political sophistication lens, but also by acknowledging the interconnectedness of these material factors. It is possible that production workers view climate change as an economic problem, as their daily lives are experienced as an economic struggle to make ends meet. This economic struggle is extensively discussed in the next section (4.2.2).

Long-term and future thinking (SF)

Furthermore, O'Connor and others (2002) concluded that people want to reduce emissions, if they understand the negative future scenarios and consequences of climate change. Socio-cultural (semi-)professionals view climate change from a future-oriented, long-term perspective. In addition, socio-cultural (semi-)professionals often get frustrated when they think of "others," who are only focused on the short-term. This sentiment is reflected by Bas (social worker (P2)), who feels that "we all live in the here and now. And we are not occupied with what this [behavior] does now to the climate of tomorrow or over a year". The long-term perspective of socio-cultural (semi- professionals is also reflected in their motives to take personal action to mitigate climate change. Socio-cultural (semi-)professionals who have children or work with children take action to mitigate climate change "for the future generation." Claire (elementary school teacher (P3)) explains: "Because it's not only my world, but it's the world for the children in my class. And it's also their future." This is in contrast to production workers, who are often focused on the short-term and the current generation. Max (garbageman (P19)) explains how people who live in the present should not set themselves aside for future generations as he lives "in this generation."

Similar to the findings of Mau and others (2023), a conflict in temporalities between the socio-cultural (semi-)professionals and production workers prevails. A long-term perspective is needed to see the positive aspects of green behaviour that will emerge after many years in the future, while the costs and sacrifices take place in the present (Korteling et al., 2023). This conflict of temporalities possibly shapes the difference in environmental willingness among socio-cultural (semi-)professionals and production workers. Socio-cultural (semi-)professionals, who are often more trained in abstract thinking, may find it easier to see the positive aspects of green behavior in the future rather than focusing solely on present costs. Furthermore, this subfactor might also be linked to material factors, as production workers experience an immediate struggle to make it to "he end of the month." Therefore, they might be more focused on surviving in the short-term. However, socio-cultural (semi-)professionals have enough resources to worry about the "end of the world". Therefore, they might be more focused on the survival of future generations in the long-term (Martin & Islar, 2021). The struggle for production workers to make it to the "end of the month" will be in the next section further discussed (4.2.2).

4.3.2 Material factors

In the previous section, it was already twice addressed how cognitive subfactors are possibly connected to material factors. In this section, the material main factors and related sub factors are extensively discussed. First, it is discussed how social class related differences in the ability to make it to the *"end of the month"(MF)* shape environmental willingness. Furthermore, it is connected to sub factors that shape perceptions about who needs to pay for the mitigation measures *(make the polluters pay (SF))*. Lastly, surprising findings are discussed in relation to the *fear of sustainable transition-related job losses*.

The ability to make it to the"end of the month"(MF)

The majority of social-cultural (semi-)professionals live comfortably on their household income. They work in well-paid jobs and hold (applied) university degrees. Due to this financially stable living situation, they can afford to buy green products. Furthermore, older social-cultural (semi-)professionals are homeowners and invest in mitigation measures such as solar panels. Social-cultural (semi-)professionals, such as the psychiatrist, social worker and teachers, often encounter people in their work who are struggling to make it to the "end of the month." These experiences make those social-cultural (semi-)professionals aware that they can only worry about the "end of the world" as they live (financially) stable lives.

Marjan (elementary school teacher (P7)) explains:

> "I can easily care about the environment because I don't have to worry about how to put enough food on the table or [how to] pay for the stove again at the end of the month. […]. There is so much poverty and domestic violence; it is really one of the poorest neighborhoods in Rotterdam. And then you don't deal with things like that [climate change], because your own life is already enough to cope with."

Some socio-cultural (semi-)professionals thus experience the immediate struggle to make it to "the end of the month" indirectly. This is in contrast to several production workers, who experienced firsthand how it is to live in peculiar financial situations, because the majority of the production workers experienced making it to the "end of the month" as a difficult challenge. Frans (supplier (P14)) explained how precarious his living situation is, he stated (even though he does not believe in human-caused climate change):

> […] I have to think about the environment. Well, sorry if I can't make it to the end [of the month]. If you look very strictly, if I'm not able to survive, then the environment is no priority at all. […] Especially now that I am struggling to survive, so to say. So, I think that is the personal part. Yes, [it] should be proportional. But I think that there are many [people] in the Netherlands who already have enough worries. So, leave the environment behind. Definitely, because I think that it will not have an idiotic amount of impact.

There are also production workers, who are willing to take personal action to mitigate climate change. However, they are not able to do so, due to limited financial resources. Lisa (assembly line worker (P18)) went with her mother and little sister through a rough period when her father passed away. Lisa explains:

> My sister, for example, was a vegetarian for a very long time, but my mother did not have a lot of money back then, so yes, eventually she had to stop [being a vegetarian] because she didn't have that kind of money to be able to afford it every time, every month, and neither did my mother. So yes, unfortunately [she had to stop being a vegetarian].

The difference in abilities to make it to the "end of the month" shapes the willingness to take personal action to mitigate climate change for socio-cultural (semi-)professionals and production workers. It becomes clear that when you have limited financial resources and immediate struggles to get to the "end of the month," mitigating climate change is often not a priority. In the case of Lisa's sister, it was a priority; however, it was not a possibility due to her precarious financial situation.

Fear of sustainable transition-related job losses

Based on the literature, it was expected that sustainable transition-related job losses are less likely to be concentrated in the sectors where socio-cultural (semi-)professionals work (Markkanen & Anger-Kraavi, 2019; Vona, 2019). It was expected that production workers experience would fear of losing their jobs as they are often employed in so-called polluting industries (Markkanen & Anger-Kraavi, 2019; Vona, 2019). However, production workers did not express fears of losing their jobs. Only Nick (car mechanic (P20)), said that he is considering quitting his job, because of climate change mitigation measures. Nick explains how the arrival of the electric car had far-reaching consequences for his work. The maintenance and repair of an electric car are, namely, less complex. Therefore, repairing an electric car is far less challenging than repairing a conventional car. Nick explains: "I think I would do something else than be a car mechanic, [because] it is no fun for me to do it". In addition, the maintenance and repair of an electric car are very dangerous, because they involve high amounts of voltage. Nick explains: "If you don't know what you are doing, you will lie in your grave. I don't want to take the risk." It is a surprising finding that Nick is not afraid of losing his job due to mitigation measures, but he is afraid that he has to quit his job, because the lack of challenge makes him less fulfilled in his job. In addition, a possible reason why production workers do not express fears of sustainability-related jobs is due to the composition of the sample. This is extensively further discussed in the limitation section of Chapter 5 (conclusion and discussion).

Make the polluters pay! (SF)

In contrast to the findings of Mau and others (2023), both production workers and socio-cultural professionals want polluting companies like Shell to pay more taxes, as "the polluter should pay." However, there are class distinctions in how these perceptions shape environmental willingness. Socio-cultural (semi-)professionals still feel that individuals themselves also need to take action to mitigate climate change. Production workers, on the other hand, view that big companies and the government should take action to mitigate climate change rather than expecting citizens, like themselves, to take personal action. This is reflected in the following quote of Ashraf (railway electrician (P12)): "We live in a time where we have to think about the future, I agree with that. But do not start hurting the people *(het volk)*. Start with the big polluters." Ashraf feels that "the people" *(het volk)* are hurt by climate mitigation measures. This is possibly connected to his experience of having limited financial resources and the perception that the majority of ordinary Dutch people also struggle to make it to "the end of the month". Ashraf explains: "We had to go from 19% VAT to paying 21% VAT. Well, that all hurts. Meanwhile, billions go to Greece and Ukraine now, while your own people *(eigen volk)*

struggle to survive". This quote of Ashraf resonates with a broader feeling among production workers that "the people" *(het volk)* should not carry the economic burdens of mitigating climate change; instead polluters have to pay.

On the other hand, socio-cultural (semi-)professionals, view making big polluting companies pay as their moral[14] obligation. They namely feel that companies like Shell, which emits a lot of CO_2, have to be held accountable for their actions. However, socio-cultural (semi-)professionals do not only feel that the mitigation of climate change is the responsibility of large companies. It is also the responsibility of the government and individuals to take personal action to mitigate climate change. Marjan (elementary school teacher (P7)) stated in that regard: "[…] Flying less, things you can do yourself, and things that need to be tackled at a larger [scale], such as polluting companies. It is very wide-ranging." Therefore, the socio-cultural (semi-)professionals and production workers both feel that polluting companies have to be held accountable. However, the motives underpinning this belief and the implications for their own willingness to mitigate climate change differ per social class.

4.3.3 Cultural factors

In this section, social class-related cultural factors are discussed and how they shape environmental willingness. The main cultural factor is the difference in *lifestyles (MF)* between social classes. This directly shapes environmental willingness in different ways for socio-cultural (semi-)professionals and production workers. Furthermore, it lies at the foundation of the *green distinction (SF)* between the two social classes. The "moral ecology" that was mentioned in the previous section will also be extensively discussed, as it is part of the green distinction.

Lifestyles (MF)

Social-cultural (semi-)professionals feel that it is important that people adjust their lifestyles to mitigate climate change. This is especially manifested in behaviors such as reducing the number of flights per year and reducing their meat consumption. According to Damhuis & Westheuser (2024), social-cultural (semi-)professionals make a distinction between their own postmaterialist values and the materialistic values of other people. They often view that wealth, consumption, and success make people lose connection with a more authentic reality of social community (Damhuis & Westheuser, 2024).

This is in line with how Monique (nurse (P8)) feels that success needs to be reconceptualized:

> Currently, you have succeeded [in life] when you have a lot of money, but that is very hard to change. But maybe you have succeeded [in life] when you behave in a morally superior way, and that can also be applied to climate change.

Not only the pursuit of money is criticized by socio-cultural (semi-)professionals, but they also criticize the consumption behavior of others. Bas (social worker (P2)) describes this as follows: "[People] are very preoccupied with working, making money, consuming, working, making money, consuming." This quote illustrates how social-cultural (semi-)professionals especially express criticism regarding the mindless consumption of goods. Furthermore, this critique is also often directed towards "others" who use the plane multiple times per year and consume a lot of meat. Bas (P2) expressed: "I see it with people part of your generation, that flies and that flies and that flies too everywhere. I see that my friends are more aware of that."

This critique is in contrast to the views of production workers. They are, namely, afraid of losing their specific lifestyle. Production workers express their worries about losing their comfortable lifestyles. They are especially afraid that they cannot go on holiday with the plane multiple times per year and eat meat, due to climate change mitigation measures. The difference between perceptions regarding flying and eating meat of production workers and socio-cultural (semi-)professionals can be explained by different perceptions of social status. Perceptions of status for production workers, namely, centers around money and material relations (Damhuis & Westheuser, 2024). This has also been argued by Lamont (2000). Members of the working class namely place a strong emphasis on material possessions and economic success as makers of social status and dignity. For example, Nick (car mechanic (P20)) explains how it is an option to go less on holiday with the plane and do fewer fun things, but "[…] then I think why adjust my behavior for something in 50 years and live now a lesser *(een minder)* life?" Also, Lisa (assembly line worker (P18)) is willing to take personal action to mitigate climate change, however, she stated: "it does not have to be at the expense of myself". Similar to the study of Mau and colleagues (2023), Lisa compares her behavior to the behavior of the super-rich: "Taylor Swift, if she takes a plane for [traveling in] the city. Well, why can't I take it [the plane] to go to the other end of the world, you know." Both Nick and Lisa grew up in families where there was an immediate struggle to make it to "the end of the month." Therefore, it is possible that Nick and Lisa want to protect their current lifestyle, as they remember what it means to "have nothing". Nick and Lisa might see going multiple times per year on holiday as a symbol

of economic success and how they overcame their financial struggles in the past. This also shows the interconnectedness of cultural and material factors.

The green distinction (SF)

The previous paragraph explains how lifestyles differ per social class. Socio-cultural (semi-)professionals seem to prefer a green lifestyle and consume green goods to mitigate climate change. Whereas production workers cannot or do not want to adopt a green lifestyle. Therefore, Gengnagel & Zimmermann (2022) concluded that greenness is used by higher social classes to create a new distinction that perpetuates an exclusionary new high culture and delegitimizes social groups who do not fit within this culture. In regard to the green distinction, socio-cultural (semi-)professionals did not explicitly refer to social class. However, they implicitly refer to classes and social groups that they perceive as less willing or cognitively unable to mitigate climate change. Eline (physical therapist (P4)) explains:

> I think the most important thing is […], [when] you're going on a vacation by plane that you are aware of what you are doing, and I think with a lot of people, that's not [the case]. Certainly, in the […] how do you say [that]? The socially lower groups? I think they don't know what the effect really is, so I think if you're more aware, you will do more automatically, I believe in that.

Eline does not explicitly say what she exactly means by "socially lower groups." For example, whether she refers to social classes or lower educational groups. With the phrase "how do you say [that]" and the pause that followed, Eline was trying to find polite words to distinguish herself from "the other." This is in line with the findings of Damhuis and Westheuser (2024), who found that social-cultural professionals follow norms of politeness in the communication of social differences. They are, namely, afraid of misrecognizing "others." This is in contrast to the production workers, who created a clear distinction regarding different social classes. Several production workers explicitly mentioned social class differences in the Netherlands by referring to "higher social classes" in reference to themselves. Similar to the findings of Mau and others (2023), production workers demarcate themselves from the higher social classes, because only the higher social classes have the resources to mitigate climate change, for example, by installing solar panels. Max (garbage man (P19)) explains: "[…] sustainability [is] after all seen as another higher-class thing." To illustrate this, Max gave the following example:

> For example, solar panels and good meat substitutions are expensive. […] Higher social classes live in new-build homes who are made to save energy, good isolation etc. And those are very often [the places] where that target group of people live, and yet the lower classes, who are already living in social housing like that, which are just older houses anyway, are still, sustainability-wise, they are very much behind.

> […] For higher income groups, it is just a little step, but when you have a lower income, it becomes a bigger choice, and that matters.

Interestingly, the production workers divide the upper middle class into two different social groups, namely people who belong to the cultural upper middle class and people who belong to the economic upper middle class. This supports the argument of Oesch (2006) that heterogeneity has not only increased within the occupational system but also within classes such as the salaried middle class. Oesch (2006) argued that within the salaried middle class, socio-cultural (semi-)professionals are substantially different in income, mobility patterns, political preferences, and voting patterns compared to technical experts and managers. This distinction is also reflected in the following quote from Nick (car mechanic (P20)) about Tesla drivers:

> But I find especially, people who drive a Tesla. That's a certain kind of people. It's either those little entrepreneurs who buy a big Tesla just to have it and it's good for their wallet and "look at me." You also have real people who really buy such a car, because then they are part of the energy transition. "Look at me," and I have my car powered up with solar panels. And then I always think, like yeah...those are just not...nice that you're doing it. But you don't have to show it off. I don't like that. Or people lecturing you on a birthday ..... just shut up.

Nick perceives driving a Tesla as a symbol of wealth and economic status for "those little entrepreneurs" that belong to the economic upper class, as well as a symbol for moral behavior and a way to generate cultural status for members of the cultural upper middle class. This is in line with the findings of Eski and Schuilenburg (2022), who concluded that buying a Tesla is a growing priority for the "aspirational class" in order to have a luxe, organic, sustainable lifestyle.

Furthermore, the quote of Nick (car mechanic (P20)) also reflects the "moral ecology" of social-cultural (semi-)professionals by describing how people lectured him on his birthday about green behavior. Central to "moral ecology," is the idea that, above all, awareness, reflexivity, and the fight for the right ideas is crucial. A moralized demarcation contributes to the green distinction among classes, because the green lifestyle is associated with moral concepts (Mau et al., 2023). This might explain why production workers perceive people who take a lot of personal action to mitigate climate change as "pedantic," "patronizing," and "pushy."

The finding that the green lifestyle is associated with moral concepts is consistent throughout almost all the interviews with socio-cultural (semi-)professionals. Feelings of moral superiority are especially present, when socio-cultural (semi-)professionals explain how they do not fly at all, limit themselves to flying once a year, or eat vegetarian food. For example, Monique (nurse

(P8)) explains: “If I eat less meat, I find myself morally a better person.” Through the lens of “moral ecology,” it can be understood why socio-cultural (semi-)professionals are willing to personally mitigate climate change, while production workers feel more resistance to it.

4.3.4 Reflection on the theoretical expectations

To conclude, the results indicate that cognitive factors like political sophistication shape environmental willingness differently for socio-cultural (semi-)professionals and production workers. The results suggest that socio-cultural (semi-)professionals are “higher” educated compared to production workers and are also more exposed to media coverage about change *(expectation 1a)*. Therefore, it is possible that socio-cultural (semi-)professionals are better equipped with cognitive abilities to think in an abstract and systematic way. This is needed to understand the concept of climate change *(expectation 1b)*. So, cognitive factors like political sophistication, including level of education and media exposure, and related cognitive abilities may shape social class differences regarding environmental willingness. This is in line with both elements of the *theoretical expectation (1a and 1b)*.

In addition, socio-cultural (semi-)professionals have indeed substantial financial resources to live comfortably. Therefore, they are able to spend this money on climate mitigation measures like solar panels. This is in contrast to the production workers, who experience an immediate struggle to make it to “the end of the month” *(expectation 2a)*. Furthermore, it was expected that production workers would fear losing their jobs due to the sustainability transition, as they often work in polluting industries. However, this is not reflected in the results of this study *(expectation 2b)*. In addition, there were no indications that socio-cultural (semi-)professionals have a caring relationship with nature due to the interpersonal work logic of their job. There were also no indications that production workers mirror their instrumental work logic to their relationship with nature (*theoretical expectation 2c)*. Therefore, only the finding that differences in financial resources between socio-cultural (semi-)professionals and production workers shape environmental willingness is in line with the first aspect of the *theoretical expectation (2a)*.

Furthermore, socio-cultural (semi-)professionals view a green lifestyle, especially limiting their flights per year and reducing their meat consumption, as more moral and legitimate than the non-green lifestyle of production workers. This aspect lies at the heart of the green distinction between socio-cultural (semi-)professionals and production workers. The “moral ecology” of the socio-cultural (semi-)professionals, namely, makes production workers resist the green

lifestyle *(theoretical expectation 3)*. Therefore, the cultural factor of differences in lifestyles and the related green distinction shapes environmental willingness differently for the two social classes. This is in line with the *theoretical expectation 3*.

4.4 Conclusion

To conclude, the results of the quantitative step allowed to answer the first empirical sub-question. With caution, it can be concluded that socio-cultural (semi-)professionals and production workers are the most distinct social classes. In addition, the results of the qualitative step demonstrate that this distinction is shaped by a complex interplay of cognitive, material and cultural factors. These factors include both main factors and subfactors that shape environmental willingness.

5 Conclusion and discussion

The majority of studies regarding aspects of environmentalism focused on the role of education, political preference, and religiosity (Poortinga et al., 2019; Ziegler, 2017; De Kluizenaar et al., 2020; Hornsey et al., 2016; McCright & Dunlap, 2011b, 2011a). How social class shapes environmentalism has received less attention. Building further on the work of others, there are indications that environmental willingness is inherently tied to social class (Mau et al., 2023; Fritz & Eversberg, 2023; Kenny & Langeasther, 2023). However, the social class-related factors that shape environmental willingness have not yet been investigated. Therefore, the goal of this research was to untangle *how social class shapes the willingness of people to take personal action to mitigate climate change*. The next section includes the main findings that can be put forward when addressing this main research question.

5.1 Main findings

Firstly, quantitative analysis demonstrated that socio-cultural (semi-)professionals and production workers are the most distinct social classes in the Netherlands with regard to environmental willingness. Secondly, cognitive factors, especially political sophistication, shape environmental willingness, creating a difference between social classes. This is also reflected in social class differences regarding cognitive abilities to assess the cause of climate change, problem perception, and thinking about climate change from a long-term and future perspective. Thirdly, socio-cultural (semi-)professionals and production workers are distinct with regard to their ability "to make it to the end of the world," because socio-cultural (semi-)professionals have substantial financial resources to live comfortable lives. However, production workers struggle to make ends meet. This difference also shapes whether people are individually willing to mitigate climate change because they believe that the responsibility lies with the "big polluters" and government. Lastly, the difference in financial resources is also linked to cultural factors like the divide in lifestyles. Socio-cultural (semi) professionals have a green lifestyle and view this lifestyle as more moral and legitimate than a non-green lifestyle. However, production workers do not have the financial resources to have a greener and often more expensive lifestyle. In addition to that, if they have the resources for a green- lifestyle, they resist it. Their own non-green lifestyle feels degraded, as "others" view it as less moral and illegitimate. This results in the shaping of a green divide between socio-cultural (semi-)professionals and production workers. These cognitive-, material-, and cultural factors do not

only shape environmental willingness but also related subfactors. These factors also shape each other. Especially material factors have an important role in the shaping of environmental willingness and are connected to the other factors. For example, material factors shape how different social classes view the problem of climate change (cognitive factor) and influence whether they can afford a green lifestyle (cultural factor). It can be concluded that social classes manifested in cognitive, material, and cultural factors shape, in a complex synergy, environmental willingness. The main findings are summarized in table 4.

Table 4

Summary of the main findings regarding the social class-related factors that shape environmental willingness

	Socio-cultural (semi-)professionals	**Production workers**
Cognitive factors		
Political sophistication (MF)	Are politically sophisticated due to being "highly" educated and consume a lot of media that is based on scientific findings.	Are not politically sophisticated due to being "lower" educated and do not consume a lot of media that is based on scientific findings.
Cause of climate change (SF)	Human-caused	Human- and natural-caused
Problem perceptions (SF)	An ecological problem that is all-encompassing and time-pressing.	An economic problem, because the sustainability transition is going to fast.
Long-term and future thinking (SF)	Mitigating climate change for the future is more important than its costs in the present.	Mitigating climate change is less important than its cost in the present.
Material factors		
Ability to make it to "the end of the month" (MF)	Easy, because they have substantial financial resources.	Difficult, because they have limited resources.
The polluter has to pay (SF)	Yes, because they are morally obliged to, but in the end, it is a joint venture of companies, the government and citizens.	Yes, because ""the people" *(het volk)* are hurting enough, and therefore, it is not the responsibility of the people to take personal action.
Cultural factors		
Lifestyles (MF)	Have a green lifestyle, which is seen as more moral and legitimate than a non-green lifestyle.	Have a non-green lifestyle and do not see it as less moral/legitimate, because they cannot afford the green lifestyle
Green distinction (SF)	"Other social groups" are not aware of the impact of their behavior regarding climate change	Only members of the "higher" social classes can have a green lifestyle. "We," belonging to the lower social classes, cannot afford it.

5.2 Limitations and future research

Despite the contributions of this study to the scientific debate regarding environmental willingness as the societal debate, this study also has its limitations. Firstly, the theoretical limitations will be discussed. Secondly, the methodological limitations will be discussed. In addition to that, suggestions for future research will be made.

Firstly, this study used the classification of social class developed by Oesch (2006) because this classification deals with the current heterogeneity of the occupation system. This allows to differentiate between the socio-cultural (semi-)professionals and the technical (semi-) professions with the salaried middle class (Oesch, 2006). This differentiation was also reflected in the results. However, conceptualizing and operationalizing social class through a Bourdieusian approach would also be an appropriate choice. Several concepts used in the study to understand the shaping of environmental willingness, such as "lifestyles" and "taste," and how they relate to "social status," are key concepts in the work of Bourdieu (1984, 1986). In addition, a Bourdieusian view of social class would allow for more emphasis to how social class constitutes of economical, social and cultural capital rather than a focus on occupation and employment relations (Oesch, 2006).

Secondly, the Bourdieusian approach shows commonalities with the idea that underpins intersectionality. Bourdieu (1984, 1986) focused on how economical, social and cultural capital intersect, whereas intersectionality considers a broader range of intersecting identities such as gender and race (Crenshaw, 1991). The perspective of intersectionality possible can shed light on how the effect of level of education on environmental willingness is larger than for social class when there is additionally controlled for gender and age (section 3.2). While this is not the case, if there is only controlled for the level of education, then the effect of social class remains even larger. These findings reflect a puzzle about how different socio-demographic aspects like social, education, gender, and age are interrelated. Future research could approach social class from an intersectional perspective. This can be done by exploring the interaction effects of social class with other socio-demographic variables using quantitative analysis. In addition to this quantitative approach, Windsong (2018) argues that the complexity of intersecting socio-demographics can also be addressed by a comparative research design using interviews.

Thirdly, another methodological limitation refers to the choices made in relation to the design. This study used a most likely case design, because it allows for in-depth investigation of how social class-related factors shape environmental willingness (Brady & Collier, 2010). However, the transferability of the results is limited and cannot easily be transferred to other contexts. To address this limitation, future research can use a least likely case design to investigate whether the results are transferable to other contexts. This is especially interesting as the results of Mau and others (2023), who conducted a similar study in Germany, are very similar to the results of this study. In addition, cross-national qualitative analysis could investigate what makes social class related-factors that shape environmental willingness similar or different across different contexts.

Fourthly, this study used a maximum variation (heterogeneity) sampling technique to include a diverse range of participants to limit biases (Suri, 2011). In general, it was difficult to get in contact with production workers, which made safeguarding the maximum variation within the sample especially difficult. This explains why the sample included three garbagemen who shared similar characteristics, such as age, as they were recruited using a snowball technique. This may have impacted the results of the study. In addition, the sample included four production workers who worked in a field that existed because of the sustainability transition. This included the electrician of wind turbines and the three garbagemen, because they work for an organization that takes garbage samples to inform municipalities where to place extra garbage bins. This may have influenced the results. For example, none of the production workers expressed fear of losing their job due to the sustainability transition. This might be the case, because some production workers had a job because of the sustainability-transition. Furthermore, the sample did not include production workers that worked in the most polluting sectors, like the oil or chemical industries (CBS, n.d.). Perhaps if the sample included production workers in this sector, there would be indications that environmental willingness is shaped by the fear of losing one's job because sustainability-related job loss is concentrated in these sectors (Vona, 2019). Therefore, future research could aim to include the perspectives of production workers employed in polluting industries, because this is an important perspective that was unfortunately not included in this research.

Lastly, a general point can be made regarding the design of the study. The goals and research questions of this study emphasize the differences between social classes. However, future research can also address the differences within social classes. The interviews indicated that there is heterogeneity within the class of social-cultural (semi-)professionals. For example,

cultural and social professionals like teachers, social worker and journalist tend to be outspoken regarding their environmental willingness and are very engaged with the topic of climate change. However, product designers, veterinarian and psychiatrist are, to a limited extent, willing to take personal action to mitigate climate change. In addition, there were differences among production workers as well. For example, younger production workers were often more willing to take personal action to mitigate climate change than older production workers. Future research can address this diversity of beliefs within social classes and explore what shapes this diversity, because it is important to address the complexity within social classes as well.

5.3 Implications for practice

In line with the previously mentioned report of the Netherlands Scientific Council for Government Policy (WRR) (2023), this study shows how social inequalities like differences in class are connected to climate change measures and policies. It is important for policymakers to acknowledge and address the inequalities that prevail along social class lines regarding environmental willingness. When returning to the remarks made in the introduction, the ability of people to mitigate climate change through the purchase of solar panels or an electric car depends on their ability to make it to "the end of the month." This ability divides the social-cultural (semi-)professionals from the production workers, both materially aculturally. Policymakers can address this distinction to make the sustainability transition fairer and to enhance public support for climate change mitigation measures and policies.

5.4 "End of the month vs. end of the world"

The subtitle of this research master's thesis refers to two "mottos" that are linked to two different social movements. The French yellow vests movement protested against the challenging living situation of the working class and aimed to "Be able to fill your fridge with dignity!" (Métais, 2022). The pro-environmental movement, in which socio-cultural (semi-) professionals are overrepresented, declared that we need to mitigate climate change now. Thereby referring to the "end of the world." Therefore, this movement advocated that "Earth needs thinkers, not deniers!" (Taylor & Vaughan, 2018). Both social movements, rooted in different social classes, have a different horizon in mind, when looking at their willingness and ability to mitigate climate change. Socio-cultural (semi-)professionals often *know* how to mitigate climate change and understand this abstract concept. Furthermore, they *can* mitigate climate change, because they live comfortable lives and can invest in climate change measures.

In addition, socio-cultural (semi-)professionals *want* to mitigate climate change as they view it as their moral obligation. However, some production workers do not *know* how to mitigate climate change because the concept is too difficult to comprehend. Furthermore, they struggle to make it to the "end of the month" and therefore *cannot* afford climate mitigation measures. In addition, production workers sometimes *do not want* to mitigate climate change as they feel pushed by "higher social classes" to engage with the green lifestyle and related consumption. Therefore, there are social class differences in the willingness of people to take personal action to mitigate climate change.

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Appendix A. Social class classification of Oesch (2006)

Table 5

The Eight class classification of social classes of Oesch (2006)

Interpersonal Service Logic	Technical Work Logic	Organizational Work Logic	Independent Work Logic
Socio-cultural (semi-)professionals (e.g. medical doctors, teachers, social workers)	Technical (semi-)professionals (e.g. engineers, architects, IT-specialists)	(Junior) managers (e.g. administrators, consultants, accountants)	Self-employed professionals and large employers (entrepreneurs, lawyers, dentists)
Service workers (e.g. waiters, nursing aids, shop assistants)	Production workers (e.g. mechanics, carpenters, assemblers)	Office Clerks (e.g. secretaries, receptionists, mail clerks)	Small business owners (e.g. shop owners, independent artisans, farmers)

Source: Oesch (2006)

Appendix B. Examples of personal mitigation measures

Table 6

Examples of personal mitigation measures

Personal mitigation measures
Isolating the house (WRR, 2023)
Reducing flying (Howell et al., 2016)
Using a bicycle or public transport instead of driving (Brody et al., 2012)
Reducing meat consumption (Howell et al., 2016)
Using energy-efficient devices and purchasing energy-saving appliances (Brody et al., 2012)
Using reusable water bottles instead of disposable ones (Elliott, 2021)

Appendix C. Operationalization of social class

As described in the theoretical framework, social class was conceptualized following the class scheme of Oesch (2006). Therefore, *social class* is operationalized in the same way. The SPSS code of the 8-class schema was downloaded from the website of Oesch. The SPSS code was written by Amal Tawfik (University of Lausanne and HESAV) in October 2020. To construct the 8-class scheme the ISCO-08 occupation classification variable was used and the missing values were filtered out (66666: not applicable; 77777 refusal; 88888 don't know; 99999 no answer). In addition, the variable regarding employment relations was also used to construct the *social class* variable (1: employee; 2: self-employed; 3: working for own family business). The missing values were filtered out (6: not applicable; 7: refusal; 8: don't know; 9: no answer). In addition, the variable containing the number of employees who are employed by the respondent was also used to construct the variable of *social class*. Again, the missing values were filtered out (66666: not applicable; 77777: refusal; 88888: don't know; 99999: no answer).

The same three variables (ISCO-08 occupation classification, employment relation and number of employees) were also used to construct the social class status of the partner of the respondent. The missing values were filtered out in the same way as described above. To construct the 16-social classes the social class status of the respondent and their partner were merged together, which lead to the following 16-classes: large employers (1), self-employed professionals (2), small business owners with employees (3), small business owners without employees (4), technical experts (5), technicians (6), skilled manual workers (7), low-skilled manual workers (8), higher-grade managers and administrators (9), lower-grade managers and administrators (10), skilled clerks (11), unskilled clerks (12), socio-cultural professionals (13), socio-cultural semi-professionals (14), skilled service workers (15), low-skilled service workers (16).

This 16-class scheme was then recorded into an 8-class scheme as some classes included a limited number of respondents. The following social classes were merged together: the large employers (1) and the self-employed professionals (2), the small business owners with employees (3) and the small business owners without employees (4), the technical experts (5) and the technicians (6), the skilled manual workers (7) and the low-skilled manual workers (8), the higher-grade managers and administrators (9) and the lower-grade managers and

administrations (10), the skilled clerks (11) and the unskilled clerks (12), the socio-cultural professionals (13) and the socio-cultural (semi-)professionals (14) and the skilled service workers (15) and the lower-skilled service workers (16). This leads to the following eight classes: Self-employed professionals and large employers (1), Small business owners (2), Technical (semi-)professionals (3), Production workers (4), (Associate) managers (5), Clerks (6), "Socio-cultural (semi-)professionals (7), Service workers (8). Furthermore, the same steps are undertaken to code the class position of the respondent's partner.

Appendix D. Characteristics of participants

Table 7

Socio-demographical and political characteristics of participants

Fictional name	Occupation	Type of education	Age	Placement on left-right scale (0 = left; 10 = right)	Subjective income (feelings)	Region: living while growing up	Region: currently living
1. Amber	Journalist	University	24 years	2	Can get by	South-Holland	South-Holland
2. Bas	Social worker	Applied university *(HBO)*	61 years	2	Live comfortably	North-Brabant	North-Brabant
3. Claire	Elementary school teacher (Utrecht)	University	25 years	2	Live comfortably	Utrecht	Utrecht
4. Eline	Physical therapist	Applied university *(HBO)*	25 years	1	Can get by	South-Holland	South-Holland
5. Hanna	Psychiatrist	University	61 years	5	Live comfortably	South-Holland	Noord-Brabant
6. Lucy	Veterinary doctor	University	27 years	3	Live comfortably	North-Holland	Utrecht
7. Marjan	Elementary school teacher (Rotterdam)	University	61 years	2	Live comfortably	South-Holland	South-Holland
8. Monique	Nurse	Applied university *(HBO)*	55 years	3	Live comfortably	North-Brabant	North-Brabant
9. Sanna	Product designer	Applied university *(HBO)*	51 years	6	Live comfortably	Noord-Brabant	Noord-Brabant
10. Siem	High-school teacher (economics)	University	37 years	4	Live comfortably	North-Brabant	North-Brabant
11. Willemien	Religious professional	Applied university *(HBO)*	56 years	0	Live comfortably	North-Brabant	North-Brabant
12. Ashraf	Railway electrician	Intermediate technical school *(MTS)*	47 years	5	Cen get by	South-Holland	South-Holland
13. Finn	Wind turbine electrician	Intermediate vocational training *(MBO)*	27 years	Don't know	Can get by	South-Holland	South-Holland
14. Frans	Supplier	Pre-university education *(VWO)*	45 years	8	Difficult to get by	Gelderland	Utrecht
15. Henk	Train driver	Intermediate vocational training *(MBO)*	59 years	6	Live comfortably	North-Holland	North-Brabant
16. Jesse	Construction electrician	Intermediate vocational training *(MBO)*	24 years	4	Can get by	North-Brabant	North-Brabant
17. Kees	Maker of solar protection devices	Lower technical	53 years	6	Live comfortably	North-Brabant	North-Brabant

		school/ intermediate technical school *(LTS/MTS)*					
18. Lisa	Assembly line worker	Intermediate general secondary education *(MAVO)*	21 years	7.5	Can get by	North-Brabant	North-Brabant
19. Max	Garbageman	Senior general secondary education *(HAVO)*	18 years	2	Can get by	North-Brabant	North-Brabant
20. Nick	Car mechanic	Intermediate vocational training *(MBO)*	26 years	7	Live comfortably	North-Brabant	North-Brabant
21. Tim	Garbageman	Pre-university education *(VWO)*	22 years	2	Can get by	North-Brabant	North-Brabant
22. Tygo	Garbageman	Propaedeutic of applied university *(HBO propedeuse)*	22 years	1	Cen get by	North-Brabant	North-Brabant

Appendix E. Informed consent

Informatie over het onderzoek

Het onderzoek gaat over hoe verschillende beroepsgroepen kijken naar klimaatmaatregelen. Het onderzoek wordt uitgevoerd door Linde Bekkers. Linde Bekkers is een research master student en volgt de opleiding Research in Public Administration and Organisational Science aan de Universiteit Utrecht. Dit onderzoek wordt uitgevoerd in het kader van haar research master-scriptie. Na het afronden van de reserach master scriptie zal er mogelijk een academisch artikel geschreven worden op basis van dit onderzoek.

Informatie over participatie

Wanneer u deelneemt aan het onderzoek zal er een interview met u worden afgenomen. Dit interview zal ongeveer 30 – 45 minuten duren. Het interview zal gaan over klimaatverandering en klimaatmaatregelen.

Informatie over privacy

De resultaten van dit onderzoek zullen vertrouwelijk bewaard worden en de resultaten zullen anoniem verwerkt worden. Dit betekent dat persoonlijke informatie zoals uw naam niet vermeld zal worden. Door dit document te onderteken geeft u toestemming dat het interview wordt opgenomen. De opname zal alleen beluisterd worden door Linde Bekkers en de opname zal na één jaar na het afronden van de research master scriptie worden verwijderd. De data zal worden opgeslagen in een beveiligde omgeving, namelijk OneDrive/Office365 via Utrecht Universiteit.

Rechten van de participant

Deelname aan dit onderzoek is volledig vrijwillig. U kunt op elk moment, zonder opgave van reden, stoppen met het onderzoek. Dit heeft geen gevolgen voor de participant. Bij vragen kan de participant Linde Bekkers mailen (l.a.e.bekkers@uu.nl). Als de participant vragen heeft met betrekking tot de privacy, kan de participant mailen naar het privacy departement van de Universiteit Utrecht (privacy@uu.nl) of naar de functionaris voor gegevensbescherming van Utrecht Universiteit (fg@uu.nl). Daarnaast heeft de participant recht om vragen te stellen of een klacht in te dienen bij de Autoriteit Persoonsgegevens.

Verklaring participant

Ik geef toestemming om deel te nemen aan dit onderzoek:

Voor- en achternaam Datum:

Handtekening:

Appendix F. Interview guide

- Waar denk je aan bij “klimaatverandering”?
    - Is er nog meer waar je aan denkt?
- Waar denk je aan bij “klimaatmaatregelen”?
    - Is er nog meer waar je aan denkt?
- Zou er ook iets gedaan moeten worden om klimaatverandering tegen te gaan?
    - Wie moet dat doen? Zo nee, waarom niet?
    - Individuen? Overheid? Bedrijven?
    - Vind je dat Nederland voorop moet lopen in Europa?
- Moeten mensen zoals jijzelf maatregelen nemen om klimaatverandering tegen te gaan?
- Zou je zelf maatregelen willen nemen om klimaatverandering tegen te gaan?
    - Zo ja, wat zou je willen doen/wat doe je al?
- Overweeg je om je huis te isoleren?
    - Waarom?
- Overweeg je om zonnepanelen aan te schaffen?
    - Waarom?
- Overweeg je om het aantal vluchten per jaar te verminderen?
    - Overweeg je om met de trein op vakantie te gaan i.p.v. het vliegtuig of de auto?
- Overweeg je om met de fiets of het openbaar vervoer te gaan in plaats van de auto?
    - Waarom?
- Overweeg je om minder vlees te gaan eten?
    - Waarom?
- Wie moet de kosten betalen voor deze maatregelen om klimaatverandering tegen te gaan?
- Zijn deze maatregelen om klimaatverandering te verminderen voor jou te betalen?
- Wat vind je van mensen die weinig doen om klimaatverandering te verminderen?
    - Waarom vind je dat?
    - Kun je daar een voorbeeld van geven?
- Wat vind je van mensen die veel doen om klimaatverandering te verminderen?

    - Waarom vind je dat?
    - Kun je daar een voorbeeld van geven?
    - Vind je mensen die veel doen om klimaatverandering tegen te gaan belerend of betwetterig?
- Wordt er op je werk al iets gedaan om klimaatverandering tegen te gaan?
- Wat voor werk doe je?
    - Heb je daar ook een opleiding voor gevolgd? Zo ja, welke?
- Welke banen heb je hiervoor gehad?
- Werd er bij je vorige banen al iets gedaan om klimaatverandering tegen te gaan?
- Wat voor werk doen je ouders/hebben je ouders gedaan?
    - Hebben je ouders daar ook een opleiding voor gevolgd?
- Beinvloed het werk wat je doet ook je kijk op klimaatmaatregelen?
    - Zo ja, kan je daar een voorbeeld van geven? Zo nee, waarom niet?
- Hebben klimaatmaatregelen je huidige baan beïnvloed?
    - Zo ja, kan je daar een voorbeeld van geven? Zo nee, waarom niet?
- Binvloeden klimaatmaatregelen ook jou werk? Zijn er klimaat gerelateerde omstandigheden die het moeilijk voor jou maken om je werk uit te voeren?
    - Ben je bang om je baan kwijt te raken vanwege deze klimaat gerelateerde omstandigheden?
- Terugkijkend op dit interview, wat zijn de belangrijkste punten die je nog een keer wilt benadrukken?
    - Wil je nog een keer onder woorden brengen wat voor jou het belangrijkste punt was in dit interview?
- Zijn er nog punten die niet of onvoldoende aan de orde zijn gekomen en die je nog wilt benadrukken?

Appendix G. Questionnaire

Ik wil u vragen om de volgende zes vragen te beantwoorden. U mag één woord per vraag aanvinken wat persoonlijk op uw toepasselijk is.

1. In welk jaar bent u geboren? Vul het jaartal in op de stippellijn.
    - ……..
    - Zeg ik liever niet.

2. Wat is het hoogste opleidingsniveau dat u heeft afgerond? Vul het niveau van de opleiding en de soort opleiding in op de stippellijn.
   Bijvoorbeeld: Opleidingsniveau: MBO4; Soort opleiding: verpleegkunde.
    - Opleidingsniveau: ……..……..……..……..
      Soort opleiding: ……..……..……..……..
    - Zeg ik liever niet.

3. In welke provincie bent u geboren?
    - Drenthe
    - Flevoland
    - Friesland
    - Gelderland
    - Groningen
    - Limburg
    - Noord-Brabant
    - Noord-Holland
    - Overijssel
    - Utrecht
    - Zeeland
    - Zuid-Holland
    - Zeg ik liever niet.

4. In welke provincie bent u momenteel woonachtig?
    - Drenthe
    - Flevoland
    - Friesland
    - Gelderland
    - Groningen
    - Limburg
    - Noord-Brabant
    - Noord-Holland
    - Overijssel
    - Utrecht
    - Zeeland
    - Zuid-Holland
    - Zeg ik liever niet.

5. In de politiek wordt er soms over “links” en ‘’rechts” gesproken. Waar zou u zichzelf positioneren op deze schaal, waarbij 0 links betekent en 10 rechts? Om cirkel wat bij uw positie past.

Links					Midden					Rechts
00	01	02	03	04	05	06	07	08	09	10

    - Zeg ik liever niet.

6. Welke beschrijving past het beste bij u hoe zich tegenwoordig voelt over het inkomen van uw huishouden?
    - Ik leef comfortabel van het huidige inkomen.
    - Ik kan rondkomen van het huidige inkomen.
    - Ik heb het moeilijk om rond te komen van het huidige inkomen.
    - Ik heb het erg moeilijk om rond te komen van het huidige inkomen.
    - Zeg ik liever niet.

Bedankt voor het invullen van de vragenlijst!

Appendix H. Descriptives

Table 9

Descriptives of the outcome variable, explanatory variable and control variables

Variable	N	%	Min	Max	Mean	SD
Outcome variable						
Environmental willingness	1463		0	1	0.67	2.04
Explanatory variable						
Social class						
Production workers	167	11.61				
Socio-cultural (semi-)professionals	246	17.12				
Self-employed professionals and large employers	55	3.82				
(Associate) managers	284	19.75				
Technical (semi-)professionals	123	8.55				
Clerks	157	10.92				
Small business owners	175	12.17				
Service workers	231	16.06				
Control variables						
Level of education						
Low (ref.)	336	23.05				
Intermediate	445	30.52				
High	677	46.43				
Gender						
Male (ref.)	747	50.99				
Female	718	49.01				
Age	1465		16	90	48.62	18.50

Appendix I. Comparison of means of socio-demographic variables

Table 8

Mean score of environmental willingness per level of education, gender and age group

Control variables	*Mean score of environmental willingness*
Level of education	
Low	6.02
Intermediate	6.48
High	7.12
Gender	
Male	6.36
Female	6.97
Age group	
16-26 years	5.93
26-36 years	6.61
36-46 years	6.83
46-56 years	7.02
56-66 years	6.73
66-76 years	6.89
76-86 years	6.30
86 years and older	5.58