ECO-ANXIETY AND IT`S LINK TO THE EVERYDAY LIFE CHOICES OF YOUNG FINNS IN 2020

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ABSTRACT

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Abstract

Climate change has become a very real and alarming topic and has increased research interest in its mental and emotional impacts on people. The term eco-anxiety is used to define a problem that is described as a state of increased anxiety relating to climate change. Eco-anxiety has received more attention in the previous years, and the attention will probably increase even further in the future.

This research examines the perceived eco-anxiety among Finnish youth in 2020 and how eco-anxiety is linked to the changes in everyday life choices of young Finns. In this study eco-anxiety was defined as a unified construct of climate-related anger, anxiety, fear, guilt, and depression. In addition, the link between issues such as news and politics with eco-anxiety was examined.

An online survey was conducted to collect data on how young Finns experience climate-related emotions. The data consisted of 193 responses and the online survey consisted of several questions regarding climate change related emotions. Climate-related anxiety was chosen as a comparison to eco-anxiety. The results of the online survey were analyzed, and they indicated that negative climate-related emotions had a link to the changes in everyday life choice of young Finns. 12% of young Finns reported to have experienced eco-anxiety every week. Eco-anxiety and climate-related anxiety both played a significant role in emphasizing how negative climate-related emotions impact the everyday life choices of young Finns. More in-depth research is required in the future to find out how negative climate-related emotions impact the everyday life choices of young Finns.

Keywords: Eco-anxiety, climate emotions, climate-related anxiety

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TIIVISTELMÄ (ABSTRACT IN FINNISH)

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Tiivistelmä - Abstract

Ilmastonmuutos on ilmiönä erittäin ajankohtainen ja sen vaikutukset ihmisten mentaalisiin ja emotionaalisiin kokemuksiin kiinnostavat tutkijoita yhä enenevissä määrin. Ympäristöahdistus-termiä käytetään määrittelemään ongelmaa, jolla viitataan ilmastonmuutokseen liittyvään kasvaneeseen ahdistukseen. Ympäristöahdistukseen liittyvä tutkimus on lisääntynyt varsinkin viime vuosien aikana ja se tullee kasvamaan.

Tässä tutkielmassa tarkastellaan suomalaisten nuorten kokemaa ympäristöahdistusta vuonna 2020, sekä miten ympäristöahdistus ilmenee suomalaisten nuorten arkipäiväisissä valinnoissa. Tutkielmassa ympäristöahdistus määritellään rakentuvan yhtenäisesti ilmastoon liittyvän vihan, ahdistuksen, pelon, syyllisyyden ja masennuksen kokemuksista. Lisäksi tutkielmassa tarkastellaan muun muassa uutisten ja politiikan yhteyttä ympäristöahdistuksen kokemuksiin.

Tutkielman aineisto kerättiin verkkokyselyn avulla. Kyselyllä kerättiin aineistoa suomalaisten nuorten kokemuksista suhteessa ilmastoon liittyviin tunteisiin. Aineisto koostui 193 vastauksesta, ja verkkokysely sisälsi kysymyksiä liittyen ilmastonmuutoksen herättämiin tunteisiin. Ilmastoperäinen ahdistus valittiin vertailtavaksi muuttujaksi ympäristöahdistukselle.

Verkkokyselyn analyysi osoittaa, että negatiiviset ilmastoon liittyvät tunteet ovat yhteydessä muutoksiin suomalaisten nuorten arkipäivän käyttäytymisessä. 12 % suomalaisista nuorista koki ympäristöahdistusta joka viikko. Ympäristöahdistuksella sekä ilmastoperäisellä ahdistuksella on merkittävä rooli, kun tarkastellaan yhteyttä suomalaisten nuorten arkipäiväisiin valintoihin ja negatiivisiin ilmastoon liittyviin tunteisiin. Näiden vaikutusten syvällisempää tutkimusta on tärkeää jatkaa.

Avainsanat: Ympäristöahdistus, ilmastotunteet, ilmastoperäinen ahdistus

Säilytyspaikka
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1 INTRODUCTION

Climate change has become a very controversial and diverse topic and thus has increased research interest in its mental and emotional impacts on humans (Clayton & Karazsia 2020). The phenomenon called eco-anxiety is used to define a problem that has been described as a chronic fear of environmental doom (Clayton et al. 2017) or a state of increased anxiety relating to climate change (Fearn 2018). Eco-anxiety has received a growing research interest and has recently been a major topic in the media (Pihkala 2020b). There is a lot of information on negative climate change-related emotions even though there is not enough research on the subject (Legg 2019). Pihkala (2019b) argues that climate change has become an environmental threat, thus eco-anxiety is likely to become one of the most common forms long-lasting anxieties. Finland has a well-established concept of eco-anxiety, but internationally however, there is no single established definition in the field of research (Legg 2019). A topic that requires more research is how negative climate-related emotions are linked to people's everyday life choices. This is one of the key reasons why this topic was chosen.

This research aims to answer what the influence of perceived eco-anxiety on changes in everyday life choices of young Finns is. In the research, eco-anxiety is defined as consisting of five negative emotions (anger, fear, depression, anxiety, and guilt). The research also compares eco-anxiety and climate related-anxiety with each other, and these two variables should not be confused since in this study eco-anxiety consist of five emotions and climate related-anxiety consist of only one. This research is based on the results from the online survey and the results indicate what the role of eco-anxiety is related to climate change.

The research is very timely since it will indicate whether the youth are experiencing eco-anxiety and what its effect is on their daily lives. From the corporate environmental management perspective, the research aims to look into why eco-anxiety would need more attention and what influence eco-anxiety may have on management level and individual level. If the corporations and their management have empowered sensations regarding climate-related information, they may implement new sustainability strategies throughout the company, change the whole organizational culture, improve leadership management, and re-educate future employees. The next part outlines what does the research consist of.

The theoretical framework aims to answer what previous research there has been on climate change-related emotions and what is their connection to eco-anxiety. The survey of this research is based on the survey of the Finnish company Sitra in 2019. The company Sitra wanted to find out whether the results

of the survey had changed significantly in 2020 regarding eco-anxiety and how eco-anxiety affects the changes in everyday life choices of young Finns. The discussion section compares the results of the two surveys. The methodology part describes how the data was collected, who was the target group and how the survey was conducted and distributed. The result section shows the significant results to each research question based on the survey responses. The last part discusses the results and what kind of research is required in the future. The following part goes through the research questions concisely.

The first research questions address topics such as what emotions constitute eco-anxiety. Five emotions were chosen to constitute eco-anxiety. The emotions were fear, anxiety, anger, depression, and guilt.

The second research questions elaborate on how often young Finns experience eco-anxiety and climate-related anxiety. Climate-related anxiety is chosen as an additional variable to form a comparison between it and eco-anxiety. The reason for the choice is to find out how much climate-related anxiety was experienced compared to eco-anxiety.

The third research question addresses what issues such as news and politics caused negative climate emotions. This is done by finding out what was the most significant issues are.

The last research question illustrates in what way eco-anxiety and climate-related anxiety are linked to everyday life choices. The methodology section will discuss what methods are used to calculate research results and the discussion section will analyze what the results are and what is their significance.

2 LITERATURE REVIEW

This chapter explains what emotions constitute eco-anxiety, what are the previous studies of eco-anxiety, what the role of climate-related emotions are, how are eco-anxiety and climate-related anxiety differentiated in this study and what the theoretical framework is.

2.1 What is eco-anxiety

Eco-anxiety is part of a study field that focuses on the negative environmental emotions and how they are linked to mental well-being and environmental behavior of people. Lately, interest in a relatively new phenomenon called eco-anxiety has increased because of people's awareness of climate change and its implications on the world. To understand eco-anxiety, it is vital to go more in depth into the negative climate-related emotions and their implications on human behavior and how they are linked with changes in everyday life choices.

The negative climate-related emotions and sensations are generally divided into short-term emotions (hopelessness, disgust, despair, sense of worry and sense of concern (Clayton 2020) and long-term emotions (fear, depression, anger, guilt, and anxiety) (Pihkala 2018). Pihkala (2020c) states in his article that anxiety as an ecological crisis is a rapidly growing phenomenon. The article focuses on the challenges and possibilities that eco-anxiety has on the mental well-being of humans from an educative perspective. Eco-anxiety is problematic to determine since it has multiple dimensions. Pihkala (2018a) has described how eco-anxiety is often defined as chronic feelings of anxiety, guilt, worry, depression, and anger. In the article he describes that people tend to experience a variety of difficult feelings, eco-anxiety often being one of them. The main concerns revolve around environmental damage and its threat thus increasing the awareness of emotions such as fear, guilt, depression, anger and anxiety. Pihkala argues that these sensations reduce health, wellbeing, and functioning. This knowledge is important for both individuals and the resilience of societies, since if it is overlooked, the problem can get out of control. Rees et al. (2015) discuss their research in the context of intergroup relations, what the role of guilt and shame, as well as other emotions such as anger, sadness, and depression, have in affecting behavior intentions and the actual behavior of a specific group or population. According to the research, when faced with human-caused environmental damages, respondents reported significantly more negative emotions. Next part will elaborate the psychological elements of climate change variables.

Bradley et al. (2014) describes the psychological elements of climate change with a simple model. The model helps to explains how environmental emotions are experienced and how these are perceived as risks. The model continues to

explain how the environmental emotions and experiences can turn into negative climate-related emotions and finally how to mitigate and adapt to the behavior.

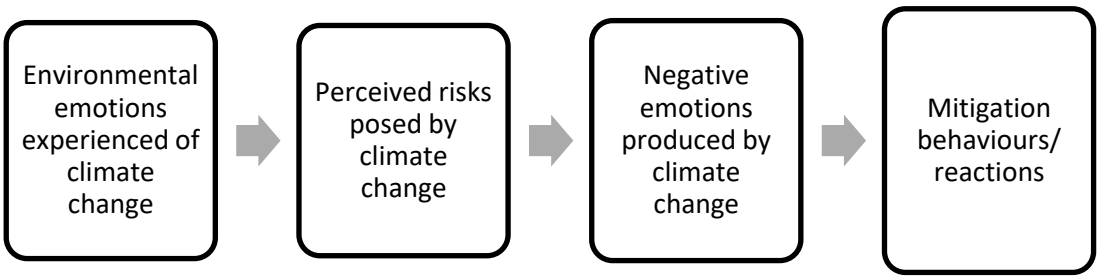

FIGURE 1 The simplified sequence of climate change psychological variables (Bradley et al. 2014)

Figure 1. above describes the simplified sequence of climate changes psychological variables. The sensations/emotions begin with an experience of climate change-related phenomena following the perceived risks posed by climate change. These risks can produce negative emotions such as anger, fear, anxiety, depression, and guilt. The last part illustrates the reactions and mitigation of the emotions experienced. This model is vital to understand since it builds a simplified baseline of where climate-related emotions come from. Further research on the psychological aspects of climate change has been conducted by several researchers such as Gifford et al. (2011), Swim et al. (2011), Wolf & Moser (2011). The most important findings by these researchers were that most of the people accepted that human activities contribute to climate change, most people experience concern and negative emotions towards climate change, younger people were more concerned about climate change and unfortunately, knowledge and attitudes towards climate change did not transform behavior towards a more sustainable lifestyle. The discussion section will consider if these results were supported by this research.

In his article *Anxiety, normative uncertainty, and social regulation* Kurth (2016) describes that the role of emotions is important in securing social stability. He refers to previous research that emotions like fear, anger, and guilt have received much attention in the social stability context, however, anxiety has got much less which he perceives as a problem. Findings of the research indicate that environmental understanding does not simply lead to an emotion that generates action (Carmi et al. 2015). In terms of cognitive barriers, they compromise our emotional involvement. These barriers protect our nervous system when a dramatic environmental catastrophe occurs, and the complexity of environmental problems comes to a cognitive realization (Weber 2005). Next parts will discuss eco-anxiety.

Eco-anxiety is a complex phenomenon, and it is difficult to measure since people have different reactions and sensations to negative climate-related

emotions. Some people feel empowered after having sensations of eco-anxiety and feel that they should start to make major changes in their everyday life choices, and some have an opposite effect. When eco-anxiety is accompanied by negative emotions, it lessens a person's ability to function. Emotions and sensations build a strong base of how people react and behave afterwards (Brown 2003). Considering the previous studies conducted about climate emotions and eco-anxiety, first, it is important to focus on what is measured and how is it measured using a theoretical model (Clayton & Karazsia 2020).

In this research, the adjusted theoretical model below (Figure 2.) of the five-negative climate-related emotions that constitute eco-anxiety describes what commonly are linked with eco-anxiety and explain its dimension (Pihkala 2020c). The research also separates eco-anxiety as a coherent variable consisting of fear, anxiety, depression, guilt, and anger from climate-related anxiety as a singular variable. The reason for the separation was to find out whether climate-related anxiety better the negative climate-related emotions and their effect on young Finns.

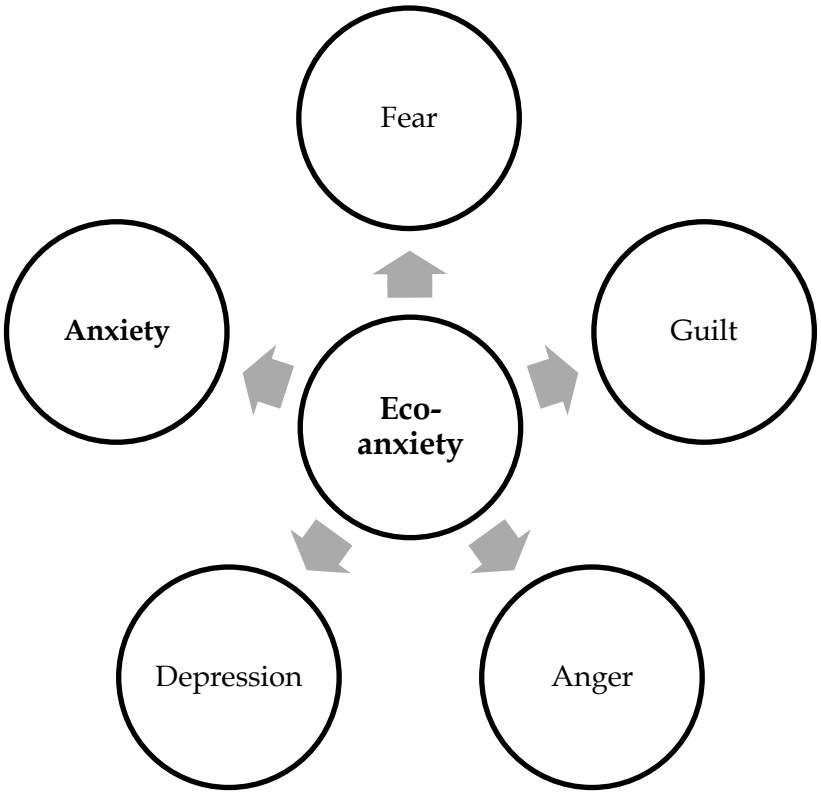

FIGURE 2 Five negative emotions of eco-anxiety

The figure 2. illustrates the adjusted model of five negative emotions of eco-anxiety (Pihkala 2020c). The original model of Pihkala (2020c) consisted of also worry, overwhelm, stress and enthusiasm; however, the online survey did not include those emotions and that is why this research focuses only on these five

emotions listed in the figure above. In the online survey respondents reported having experienced the most anxiety, fear, guilt, anger and depression. The reason why the five emotions listed were chosen was that the respondents reported having too similar emotions to one another and to avoid similarities between the emotions, these five negative emotions were chosen out of the 26 climate emotions (listed in chapter 3.2). Next part compares the prevalence of climate-related anxiety and eco-anxiety, and their capability to predict changes in everyday life choices.

Eco-anxiety and climate-related anxiety are two different variables that should not be confused. Climate-related anxiety makes up only one dimension of eco-anxiety. Eco-anxiety includes four other climate-related emotions (anger, fear, depression, and guilt). Both variables are used and their capacity to predict changes in everyday life choices are measured and compared to one and other. This is because, while climate-related anxiety being a subset of eco-anxiety, it might itself be almost as good at predicting as eco-anxiety (i.e., as the anxiety combined with the other four emotions). Thus, with this method it might be possible to see what role the other four emotions (anger, fear, depression, and guilt) play in cases where eco-anxiety and climate-related anxiety differ significantly. In addition, the sample size was smaller for eco-anxiety when the variables were recoded. Recoding of the variables meant that the "I don't know" answers were excluded from the calculation.

Figure 3. below illustrates how issues affect eco-anxiety and how eco-anxiety is linked to the everyday life choices of 15-29-year- old Finns. The figure is an empirical and theoretical framework that was used to emphasize how and what was done in this research. The framework is based on the online survey (2020).

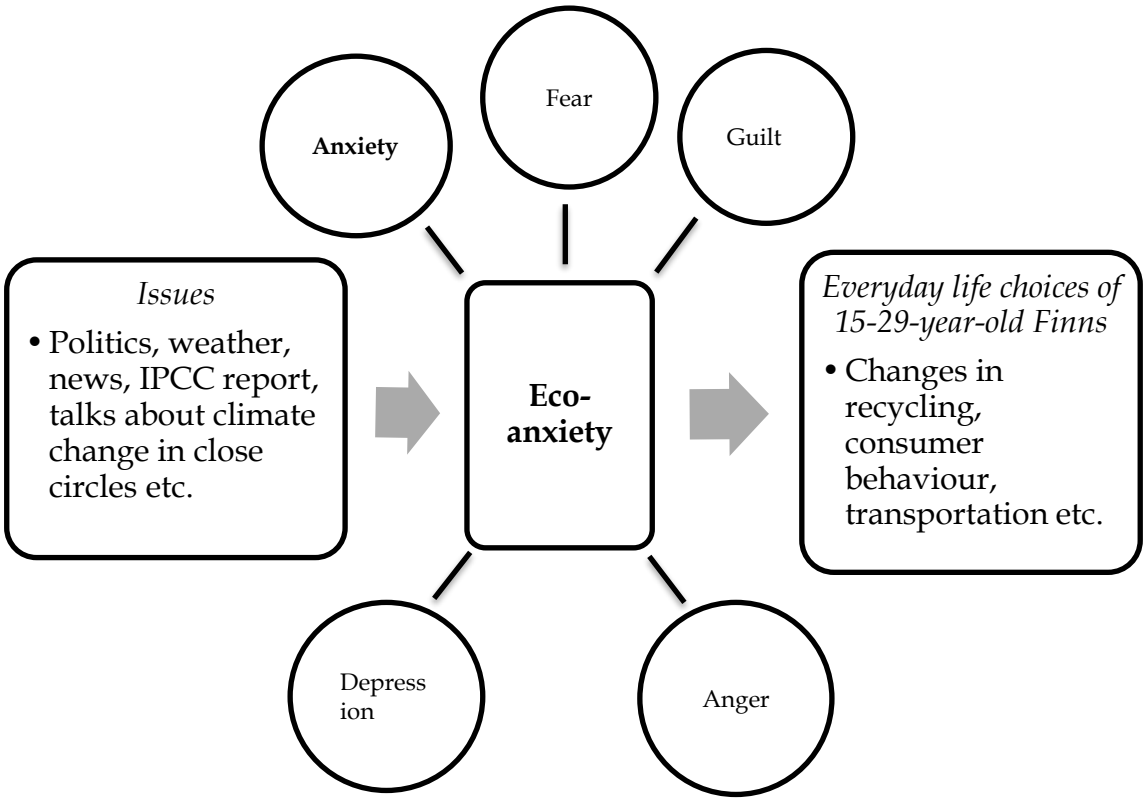

FIGURE 3 The process of eco-anxiety

The process of eco-anxiety focuses on how it is affected by issues such as politics and weather and how eco-anxiety is linked to the everyday life choices of young Finns. The issues listed that affect eco-anxiety are politics, weather, news, IPCC report and talks about climate change in close circles. The other part of the figure illustrates how eco-anxiety has on effect on the changes in everyday life choices. Eco-anxiety is shown to be linked with the five selected emotions. These five emotions are based on the earlier model. The changes that are listed and influenced by eco-anxiety are recycling habits, consumer habits and changes in transportation. This image is the base on how this research is conducted, what is researched and what the process of eco-anxiety is. Next parts will discuss the impacts and role of eco-anxiety.

In their article Verplanken & Dobromir (2020) discussed the issues of eco-anxiety and how the experiences of these can end up in threat and loss, which eventually leads to anxiety, grief, and other negative emotions. The direct and indirect impacts of climate change play an important role in activating these emotions, thus leading to eco-anxiety. The severity of consequences of climate change has constantly been reminded in news, by politicians, seen in documents, and reports. The study conducted by Verplanken & Dobromir (2020) surveyed

how issues such as loss of human and animal life, destruction of natural habitats, significant changes to weather and seasons and changes to oceans and other bodies of water affected respondents' emotions. The study concluded that around 15-20% felt worried about these events. The study also suggested that the COVID-19 crisis did not affect the level of worry.

Pooley & O'Connor (2000) argue that negative environmental emotions affect in their numerous dimensions and the important role of these emotions is connected to environmental behavior and environmental sensitivity that is highlighted to have a had a dramatic effect on everyday life choices of people. Individuals who express positive or negative emotions toward the environment are likely to behave in a way that protects or harms nature (Carmi et al. 2015). In contrast, Wolf & Moser (2011) highlighted what the role of individuals in reacting to climate change-related emotions was. Whether the people were leaders in government, business, or members of a union, individuals can initiate, inspire, and enact to pressure decision-makers to make cuts in emissions to slow down climate change. It is vital to recognize the roles and what effect can negative climate emotions have on the everyday life choices of humans. When we recognize the critical role of individuals in responding to climate change unwanted tensions between the population and the state can be lessened. The level of cognitive and emotional engagement leads to behavioral changes in local and global level.

Various terms regarding climate change and its concepts are related to vague clarifications of negative and unwanted emotions whereas others indicate reactions or experience to more general environmental topics and describe different patterns of emotional experience (Clayton & Karazsia 2020). Ecological distress is a key element when policymakers assess the impacts of climate change and what short-term and long-term impacts they have regarding eco-anxiety. According to Corr (2011), anxiety becomes maladaptive and when a person is being sensitive to a potential problem, an emotional response is triggered leading in most cases to a sense of anxiety. Every individual has a different response and experience to external threats that may trigger symptoms of anxiety. Environmental destruction and its threats cause both physical and mental symptoms. Australian researcher Albrecht (2012) emphasizes the influence of body and mind on each other, where sometimes the psychological symptoms are stronger than the physical ones and vice versa. This embodies an issue since the way a human respond to anxiety can vary from feeling helplessness towards getting a sense of purpose and acting on that sensation. Eco-anxiety should receive significantly more attention since less research has been done on the general mental health effects of eco-anxiety and its threats, however, they are also a growing international research theme (Albrecht 2012). Through non-formal educational settings, stimulating environmental sensitivity can act as a positive environment-sensitive method and personalize environmental issues that include realization of environmental implications so that they are perceived as more personal and connecting environmental implications and changes in everyday life choices (Savageau 2011).

2.2 Previous studies of eco-anxiety

This chapter will go through the previous studies that identify the factors that affect the experience of ecoanxiety and discuss more what the impacts of eco-anxiety are. Factors such as age, education, other social factors and public perception are identified. Last part discusses the previous survey done by Sitra.

Researchers who have provided major contributions to eco-anxiety related research have had problems intertwining social and psychological research regarding eco-anxiety. There have been past endeavors to analyze and quantify emotions related to climate change and to research how factors such as age, education and other social factors influence the results. Previous links to studies about stress and climate anxiety linked to personal well-being are important variables to take into consideration when trying to understand what eco-anxiety is in 2020. However previous studies have not found a relationship between climate change worry and mental health and thus concluded that eco-anxiety's psychological response to climate change is complex (Clayton & Karazsia 2020).

The research of Ballman (2020) suggested that eco-anxiety is reduced by engaging in pro-environmental behavior and the research results indicated that when the public pro-environmental behavior increases the level of eco-anxiety also increases. In the research, there was a small negative correlation between age, meaning that as age increased eco-anxiety decreased. This could have been caused by younger respondents suffering from higher levels of eco-anxiety. Most of the respondents in the study were students and it was indicated that the education level was linked with people being more aware about the problems related to climate change. However, sometimes when people become aware of environmental issues, this may lead to more positive action regarding climate change (Ballman 2020). Ojala (2012a) explained in her study that young people suffer the consequences of climate change and experience more negative climate-related emotions than the older generation. When climate change worsens, the younger people will have more life years ahead. Eco-anxiety is going to become a bigger problem and the consequences of climate change are going to be felt around the world (Kleres & Wettergren 2017). If knowledge about climate change increases sensations of negative climate-related emotions, it is important to find out what the effects on students are.

University students are an important demographic when finding out how climate change effects their daily lives. A study in Australia by Kelly (2017) surveyed university students about eco-anxiety. The main aim of the research was to find out the perspectives and experiences on healthy emotional responses regarding climate change and how environmental degradation manifested in university students. They survey results revealed high levels of climate-related stress and anxiety, and the importance of connection to nature was linked to psychological resilience. Respondents reported having received most of the information through the media. After the study, recommendations were given for students to integrate a greater focus on well-being and mental health as

climate change related problems increase. Eco-anxiety is not only an individual problem but rather a social one (Kelly 2017).

Sociologist Norgaard (2011) discusses the phenomenon of anxiety in substance by analyzing helplessness, anxiety, fear, and guilt in the social context. The study was conducted in Norway and works as a good comparison to the Finnish population. Norgaard was able to prove that people use emotion management to fight against ecological threats. Norgaard concluded that social dissonances and pressures in a studied community about climate anxiety were so strong that people kept to themselves rather than opening a conversation on the topic. In the long run, it resulted in increased levels of anxiety. Social factors tend to shape people's experiences of eco-anxiety. People often feel that their anxiety gets worse when they are altered by social conflicts and socially constructed silence (Pihkala 2020b). Ojala (2018) researched in Sweden how people must change their lifestyles or were made to feel guiltier about living a high-end western lifestyle. These results are closely correlated with the Finnish ones since the political, economic, legal environmental and social factors are similar in Finland. There could be a correlation between people feeling more anxious about climate change when living in a country that has a high per capita carbon footprint. The sociological research about eco-anxiety is important to show the complexity of the phenomena. In terms of industrialized countries, one of the biggest indicators related to decreasing childbirth rate is the knowledge of how large a single person carbon footprint is in a developed country. A growing number of people have said that eco-anxiety, is an important indicator for their reluctance to have children (Pihkala 2020b).

The public perceptions of climate change and how they engage with it has had a growing interest in research for almost three decades. The research has mainly examined in-depth perceptions, using qualitative methodologies, such as personal interviews and case studies with individuals of different cultures and a variety of demographic characteristics (Wolf & Moser 2011). For a long time, eco-anxiety suffered from a socially constructed silence even though the symptoms were visible. The symptoms were still underestimated (Stoknes 2015). Sensations of climate anxiety will only increase in the future and become an increasingly common reaction to the state of the world (Clayton et al., 2017). Signs or symptoms of eco-anxiety could be the following: stress, sleep disorders, nausea, substance abuse, physical symptoms, sensations (fear, anger, guilt, anxiety), losing control, trauma, and shock. (Doherty & Clayton 2011). Whether fear, depression, guilt, and anger have a strong impact on human mental health regarding climate change and sustainable life choices, is still unclear (Pihkala 2020b). Previous research on how emotions were measured in correlation with climate change was done by Searle and Gow (2010). They were interested in knowing how climate change emotions and thoughts altered these specific emotions e.g. ("Thinking about climate change now makes me feel – tense, anxious, worried, angry, concerned, stressed, sad, scared, depressed"). Other researchers have highlighted the degree of solastalgia (a neologism that describes a form of emotional or existential distress caused by environmental change). (Higginbotham et al. 2015) In

their research Clayton & Karazsia (2020) analyzed and calculated what issues (I have been directly affected by climate change) and what changes climate anxiety made in the everyday lives of the respondents (I recycle, I turn off lights and I wish I behaved more sustainably). Clayton & Karazsia (2020) research supports the theories and findings in this research as well, however they do not explicitly focus on the approaches and impacts in too much detail.

Eco-anxiety can be approached through different perspectives. Some of the psychological effects of climate change have been ignored in the past, however, it could be an adaptive response of behavioral commitment towards the state of the planet (Clayton &Karazsia 2020). Impacts of eco-anxiety on the mental well-being of humans need more research (Doherty 2015; Doherty, & Clayton 2011). The impacts can be divided into direct impacts on mental well-being (eg. consequences of floods, storms) and indirect impacts on mental well-being (eg. sensations/thoughts towards the destruction of the forest, loss of nature). The indirect psychological effect of climate change refers to consequences that are linked to social relationships and human psychology (Doherty, 2015). The psychological effects become more real once the environment slowly becomes unlivable, leading to climate refugees and an increase in violence and conflict worldwide. As part of the psychosocial effects, there has also been reduced access to thriving ecosystems as these systems suffer due to climate change (Pihkala 2018). It is argued that eco-anxiety consists of fear of maladaptive change in the current and predicted future state of the environment and human-influenced climate change (Legg 2019).

In 2019, Finnish company Sitra conducted a study that found out how Finns experience climate-related emotions and how the emotions have influenced their everyday life choices. The present study is based on the survey results of Sitra in 2019. The number of young Finns who answered Sitra´s online survey in 2019 was 449. In Sitra´s survey the respondents' activity to curb climate change was increased by negative climate-related emotions such as guilt, fear, anxiety, depression, and anger. Sitra chose 26 emotions (both negative and positive) in their study to find out what issues such as news and politics influenced negative climate emotions, which emotions were more significant and how they are linked to the changes in everyday life choices of Finns. The company Sitra wanted more information on what the role of eco-anxiety is on the changes in everyday life choices of young Finns. The discussion sector compares the results of the two surveys.

2.3 Aims of the research

This part elaborates on what the research questions are and how the division among the research questions is done.

The research questions are listed below:

Research question 1) What emotions constitute eco-anxiety?

Research question 2) How often young Finns experience eco-anxiety and climate-related anxiety?

Research question 3) What issues have caused negative climate emotions (fear, depression, anxiety, anger and guilt)?

Research question 4) In what ways are eco-anxiety and climate-related anxiety related to everyday life choices?

In the research questions, there is a separation between the singular variable climate-related anxiety and eco-anxiety as a coherent variable consisting of fear, anxiety, depression, guilt, and anger. The separation of these two variables was due to finding out which one of the two explained the changes in everyday life choices of young Finns more significantly. The focus point of the research is on eco-anxiety, however, if climate-related anxiety is proven to indicate the results more clearly, further research on it is required. The 2nd and 4th research questions compare eco-anxiety as a unified variable with climate-related anxiety as a singular variable. The 4th research aims to find out the differences in results between eco-anxiety and climate change-related anxiety. Climate change-related anxiety and climate change anxiety should not be confused since in the research they are separate concepts. The discussion section will elaborate on whether it is better to use climate-related anxiety to describe the changes in everyday life choices of young Finns rather than using eco-anxiety.

3 METHODOLOGY

When conducting a research, it is first important to understand what type the research is. Research can be divided into quantitative research and qualitative research. In general, quantitative research is defined as research that defines phenomena according to numerical data. It is type of empirical research that tests theory consisting of variables that are measured with numbers and analyzed with statistics (Ylimaz 2013). Qualitative research analyzes data from observations, interviews, and written documents. Qualitative research focuses in studying real-world settings to generate descriptions on certain themes (Patton 2005). This research is a quantitative one.

It is vital to choose the right research methods otherwise there might be problems with reliability and validity. Reliability means how the research can be reproduced under the same conditions and validity means how well the results measure what they are supposed to measure. There are different forms of validity, such as content, criterion, and construct validity (Middleton 2019). Of these, this study assessed what can be said about the construct validity of the eco-anxiety. That is, do the five selected emotions form one unified phenomenon that can be called eco-anxiety, or could it include other emotions as well. So, is eco-anxiety constructed competently in this study. Reliability and validity of this research are analysed in the limitations section.

This chapter is divided into sub-sections that are data collection and participants, survey and variables and research design and statistical analysis. Data collection and participants focuses on how the data was collected, what was used to collect the data and how many respondents there were. Survey and variables elaborate on how the survey was conducted and what did it consist of. The last part focused on the research design of the work and emphasized how the research was conducted and what were the detailed research steps. The survey is part of a master's thesis and its partners are the University of Jyväskylä and the Finnish company Sitra

3.1 Data collection and participants

The data collection part goes through the number of respondents, how the data was collected and from where was the data collected. The subject section discusses the background information of the respondents: who were they, where they came from, what was their academic and financial backgrounds, how they saw the future and how happy they currently felt.

Eco-anxiety was measured by an average sum variable that was formed from five different emotions: anxiety, fear, depression, guilt, and anger. Respondents were surveyed on how often they had experienced each emotion over the past months related to climate change. Respondents answered the question on a five-

point scale (1 = Rarely than once per month, 2 = Once per month, 3 = Once per week, 4 = Every day, 5= I don't know). The target range of age was 15-29-year-old Finns from various education and occupational backgrounds (pre-school, vocational school, academic). After gathering and analyzing the data using the university provided software Webropol, participants were retained, of whom 74 identified as male and 106 as female. The majority had completed a basic education degree. The descriptive results of the background information are in the following sub-chapters.

The people surveyed consisted of demographic characteristics such as age, income, professional group, socioeconomic status, education, and gender. The survey was sent to four different universities (Tampere, Helsinki, Lappeenranta and Turku), to 14 high schools and 9 upper comprehensive schools around Finland. The most respondents were from west Finland and south Finland, which limits results and does not indicate enough how people experience climate change-related emotions in north Finland and east Finland. The education level distributed more towards the academic and basic education level and fewer responses came from the vocational level. The occupational group distribution between the respondents also focused mainly on students and partly on workers. Only a few responses were from entrepreneurs or unemployed.

The survey first controlled the basic demographic factors such as age (15-29y old) gender (male or female), the region where the people are from (north, east, west, south, capital region and Uusimaa), education (basic education, academic, vocational and other), occupational group (worker, student, entrepreneur, unemployed and other) and current economic status (financially secure, financially quite secure, financially okay when judiciously makes purchases, parents support financially, financially quite considerate and financially considerate). The survey also asked how happy the respondents currently felt. The age distribution of the respondents was as follows:

TABLE 1 The age distribution of respondents

Age group	N (193 tots.)	Per cent (%)
15-18	94	49%
19-23	30	15%
24-29	69	36%

15- to 18-year Finns formed most of the respondents (N=94). The other groups that were formed was 19 -to -23 -year -olds and 24- to 29-year-olds. The differences in means between these three age groups are analysed in the discussion sector. The regional distribution of respondents was north and east Finland (3%), west Finland (51%) south Finland (33%), capital region (10%) and Uusimaa (2%). Most of the respondents came from west Finland and south Finland. This was due to the that most of the high school and upper secondary schools were in these two regions. The low response rate came from North and

East Finland and this could have affected the research results, since there may be differences in the attitudes among young Finns around Finland.

The education level of respondents was divided into basic education (43%), academic (49%), vocational (4%) and other (5%). Most of the students had a basic education and an academic one. Academic people are often more sensitive and aware of climate-related issues and thus may affect the result. The low response of vocation school students was present. The occupational group distribution between the respondents was worker (14%), student (80%), entrepreneur (1%), unemployed (3%) and other (2%). Most of the respondents were students and in the age gap of 15-29-year-old. The current economic status among the respondents was financially secure (15%), financially quite secure (32%), financially okay when judiciously makes purchases (22%), parents support financially (24%), financially quite considerate (5%) and financially considerate (2%). Since most of the respondents were under 18, parents supported them financially. However, only 15% said that they are financially secure which may affect the everyday purchases and behaviour of the youth. If healthy and environmentally friendly food is more expensive, people would purchase cheaper unhealthy options instead.

The next part of the survey asked how happy people consider themselves currently (1= not happy and 10=very happy). Of 193 respondents, 45 answered between 1-6, 96 between 7-8 and 52 between 9-10). It is important to note that 23% of the people fell in the less happy category. This was almost ¼ of the respondents and thus important to notice. Equally as much found themselves in a very happy category. The current level of happiness may correlate with how strongly people experience climate change-related emotions; however, this topic requires further research.

The last background question of how respondents saw the future (afraid of it or not) (N=194) around 54% was a bit scared but also saw opportunities. Only 4% of respondents answered that they are afraid and see a lot of threats. Sitra´s survey done in 2019 had similar results since around 49% were a bit scared but also saw opportunities and 13% of respondents answered that they are afraid and see a lot of threats. It was important to have people from different backgrounds to avoid bias e.g., university students or other educated/academic personnel. The people in working life have usually a larger impact on climate whereas university students have a smaller impact.

3.2 Survey and variables

This research's survey was based on the survey by Sitra in 2019 about how people pursue and experience emotions regarding climate change and what coping mechanisms they use in their daily lives to prevent and support their mental and physical wellbeing. The survey conducted by Sitra (2019) in May-June 2019 had

2070 respondents. The number of people from ages 15-29 was 449. In comparison, the present online survey (2020) had 194 respondents.

The main four focus points of the both surveys were 1) Perceived happiness, future assessment, climate change perception of emotions in others and in itself 2) Anxiety and anxiety-related climate change and their effects 3) Severe climate sensations experiencing and managing them differently by any means 4) Approach climate change, encouraging climate experiencing and their effects. The highlight was to make sure that the present survey (2020) had a similar structure to Sitra´s one (2019). Objectivity is one of the highest priorities. Sitra communicated that words such as negative and positive should be avoided and concentrate more on empowering and demanding emotions regarding climate change. This was done also in the present survey (2020).

The present survey (2020) was conducted to compare a change in the results of the survey done by Sitra (2019) and to observe if any significant changes could have been affected by the current pandemic. The 26 emotions that were chosen in the survey were fear, grief, anger, guilt, depression, anxiety, interest, excitement, rage, hope, scepticism, the feeling of inadequacy, frustration, empowerment, disbelief, resentment, boredom, denial, shame, weakness, regret, stagnation, melancholy, annoyance, spleen and feeling of compensation.

The division of the main four themes of the survey was based on the following: the first theme for questions 1-4 was the climate-related emotions in felt oneself and others and how often these emotions were felt. The second part (questions 5-7) surveyed how troubled people were about climate change and how anxiety and other negative emotions described their sensations. The third theme (questions 8-11) surveyed how the difficult climate-related emotions were experienced and how to cope with them. The last theme (questions 12-17) surveyed the attitudes towards climate change and the link of climate-related emotions to the changes in everyday life choices.

3.3 Research design and statistical analysis

Below is the design of the research and what results were analysed. The design elaborates on what and how the research was conducted. The idea of the design is to help the reader understand what the research steps are in this research.

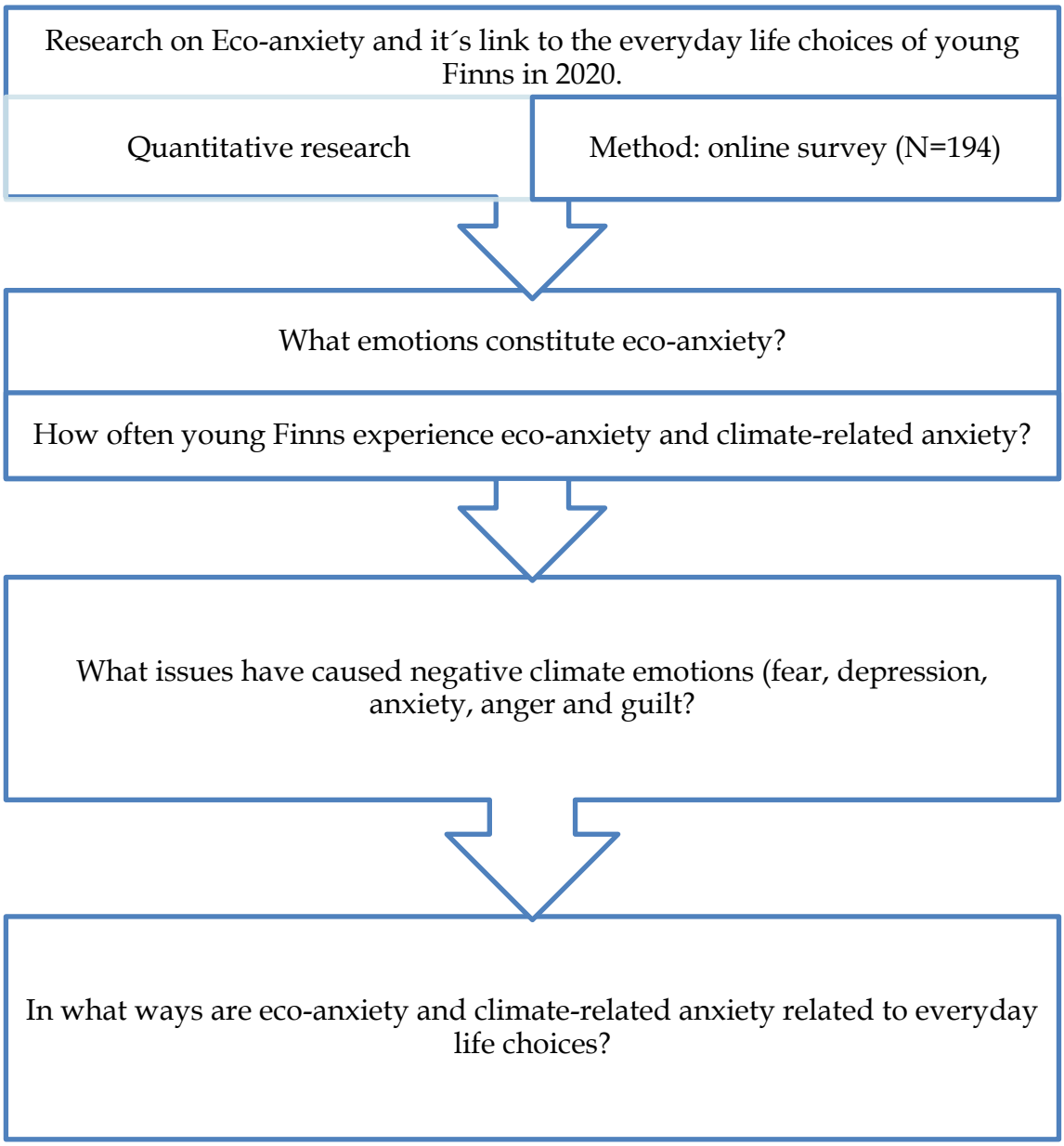

FIGURE 4 Research steps on how Finnish youth experience eco-anxiety

The research steps above indicated what was analyzed in the results section. The first two research questions are based on the answers of the online survey that found out how often young Finns experience climate emotions. The scale was 1 (Rarely than once per month), 2 (Once per month), 3 (Once per week), 4 (Everyday) and 5 (I don't know).

In the first research question 1) What emotions constitute eco-anxiety, the eco-anxiety variable was constructed using the IBM SPSS statistics 26.0 program where the emotions that were chose were fear, anger, anxiety, guilt, depression. The emotions were recoded where the "I don't know" answers were excluded from the five-point scale consisting of 1 (Rarely than once per month), 2 (Once per month), 3 (Once per week), 4 (Everyday) and 5 (I don't know). When the eco-

anxiety variable was constructed, it was used in the next three research questions. Cronbach's alpha was calculated, and Pearson correlation was chosen to find out the link between eco-anxiety and the other five emotions (fear, anxiety, depression, anger and guilt). Cronbach's alpha is a measure of internal consistency, and how closely related a set of items are as a group. (Brown 2002) In other words, it measures the scale of reliability. The Pearson correlation measures the strength of a linear association between two variables. Pearson correlation aims to draw a line through the data of two variables to illustrate how far away all these data points are from the line (Laerd statistics 2018). In this research Cronbach's alpha was a good indicator of the internal consistency of the Pearson correlation. P-value was calculated to measure if the results were statistically significant. P-value is a measure of the probability that a noticed difference could have occurred randomly. The lower the p-value, the bigger the statistical significance of the noticed difference (Thisted 1998).

Research question 2) How often do young Finn's experience eco-anxiety and climate-related anxiety, a descriptive analysis was conducted. The results go through the number of respondents, the mean, median, mode and the standard deviation (sd) of the results. The focus was on the medians of the results, since the higher the mean, more often that emotion was experienced. The second table illustrates the division of the different age groups and the effects of eco-anxiety and climate-related anxiety among the groups. The third table illustrates in more detail the grouping of the results and the amount and percentage of all the results. The ranges of eco-anxiety and climate-related anxiety follow the recoded one-to-four-point scale mentioned in the previous paragraph. The reason for separating eco-anxiety and climate-related anxiety was to find out whether climate-related anxiety as a singular emotion would explain negative climate-related emotions experienced better than eco-anxiety.

Research question 3) What issues have caused negative climate emotions (fear, depression, anxiety, anger, and guilt) is in the similar form as it was used in the survey. The research question went through the issues listed that caused negative climate-related emotions and whether people felt the issues such as politics and news increased sensations of negative climate-related emotions. Other issues are listed in table 6. page 28.

The fourth research question was based on the survey question that asked what has the person done in his or her daily life to mitigate climate change. These changes in everyday life could have been changes in recycling habits, changes in dietary habits, changes in consumption habits, changes in transportation habits and changes in living habits. On the research question, an independent samples t-test was constructed to show how eco-anxiety and climate-related anxiety are linked to the everyday life choices of young Finns. An independent samples t-test is an inferential statistical test that aims to find out whether there is a statistically significant difference between the means in two unrelated groups (Kim 2015). In this research question the range of eco-anxiety meaning how often eco-anxiety was experienced, is as follows: 1-1.6 (Rarely once per month), 1.8-2.4 (Oncer per month), 2.6-3.2 (Once per week), 3.4-4.0 (Everyday). The scale was

changed to have four similar categories. The reason why the scale was divided between 0.6 intervals was that the results were anywhere between 1 to 4 and having only a category of whole numbers would not have indicated the results well enough. In addition, the sample size of eco-anxiety dropped when the "I don't know" answers were excluded from the analysis when eco-anxiety was recorded in the SPSS program. However, the division of the range for climate-related anxiety was different since it was 1 (Rarely once per month), 2 (Once per month), 3 (Once per week), 4 (Everyday). The variables that were chosen to answer "How have you worked in their everyday lives to curb climate change" were: I've changed my consumer behavior, I've changed my eating habits, I've changed my travelling habits and I've changed my recycling habits.

4 RESULTS

This chapter will analyze the results of the survey based on the research questions. The aim was to find key phenomena and significant results that indicate whether eco-anxiety and climate-related anxiety (research questions two and four) had a significant role in the results or not. After the results were analyzed, the most significant outcomes described how eco-anxiety and climate-related anxiety is linked to changes in everyday life choices, how often it is experienced and does fear, anxiety, guilt, depression, and anger constitute eco-anxiety. The first two research questions are based on the answers of the online survey that found out how often young Finns experience climate emotions. The scale was 1 (Rarely than once per month), 2 (Once per month), 3 (Once per week), 4 (Everyday) and 5 (I don't know).

4.1 What emotions constitute eco-anxiety

A Pearson correlation was conducted to find out how the emotions correlated with each other and which emotions had the strongest correlations. The main aim was to find out whether eco-anxiety consisted of other negative emotions such as anxiety, fear, depression, guilt, and anger. All the correlations are statistically significant, and Cronbach's alfa was 0.865. Below are the 5 emotions that were chosen in this research: anxiety, fear, depression, guilt, anger, and eco-anxiety being the coherent variable of all these five emotions.

TABLE 2 Correlation table among the negative climate-related emotions

Pearson correlation	Anxiety	Fear	Depression	Guilt	Anger	Eco-Anxiety
Anxiety	1					
Fear	0.595***	1				
Depression	0.587***	0.524***	1			
Guilt	0.514***	0.603***	0.334***	1		
Anger	0.565***	0.626***	0.437***	0.464***	1	

Eco-Anxiety	0.862***	0.876***	0.704***	0.790***	0.795***	1

*p<0.05 **p<0.01 *** p<0.001

The results of the correlation table indicate that eco-anxiety has a strong correlation with all five emotions. Eco-anxiety correlated with fear (0.876), anxiety (0.862), guilt (0.790), anger (0.795) and depression (0.704). Fear had the strongest correlation, and the weakest was with guilt thus still being relatively high. Guilt and anger correlated less with depression and with each other. Other significant correlations were between fear and anger (0.626), fear and guilt (0.603) and anxiety and fear (0.595). All the results are statistically significant. The results of the first question are used to find out how often young Finns experience eco-anxiety and climate-related anxiety.

4.2 How often young Finns experience eco-anxiety and climate-related anxiety

This part employs a descriptive analysis to examine how often young Finns experience eco-anxiety and climate-related anxiety. The three tables below illustrate the sample size (*n*), median, mode, standard deviation, different age groups and the ranges of eco-anxiety and climate-related anxiety. In the eco-anxiety group, the categories are divided between 0.6 intervals. This is done to show how anxiety as a singular emotion differs from eco-anxiety as a coherent variable. The first table illustrates the number of respondents, the mean, median, mode and the standard deviation (sd) of the results. The second table goes through the division of the different age groups and the effects of eco-anxiety and climate-related anxiety among the groups. The third table finds out did young Finn's experience eco-anxiety and climate-related anxiety and how often they experienced them. The reason for separating eco-anxiety and climate-related anxiety was to find out whether climate-related anxiety as a singular emotion would explain negative climate-related emotions experienced better than eco-anxiety.

TABLE 3 Descriptive analysis of the *n* means and standard deviation of eco-anxiety and climate-related anxiety.

Eco-anxiety						Climate-related anxiety				
n	mean	Median	Mode	sd		*n*	mean	Median	Mode	sd
113	1.56	1.40	1.00	0.61		141	1.82	2.00	1.00	0.83

The table above shows that climate-related anxiety had a mean of 1.82 and eco-anxiety had a mean of 1.56. The higher the mean of the results was, the more often eco-anxiety and climate-related anxiety was experienced. To conclude climate-related anxiety was experienced more often than eco-anxiety.

TABLE 4 Age groups of respondents regarding eco-anxiety and climate-related anxiety

Eco-anxiety					Climate-related anxiety			
Age groups	mean	n	sd		Age groups	mean	n	sd
15-18	1.47	52	0.58		*15-18*	1.63	62	0.77
19-23	1.60	15	0.58		*19-23*	1.90	21	0.70
24-29	1.65	46	0.66		*24-29*	1.96	57	0.91
Total	1.56	113	0.61		Total	1.81	140	0.83

Table 4 above analysis how results vary among different age groups. Eco-anxiety and climate-related anxiety was experienced the most in the 24-29 age group. Eco-anxiety had a mean of 1.65 and climate-related anxiety had a mean of 1.96. The smallest sample size was in age group of 19–23-year-olds. To conclude the older the age was the more eco-anxiety and climate-related anxiety was experienced.

TABLE 5 Descriptive analysis of the range, *n* and the % of eco-anxiety vs. climate-related anxiety.

Eco-anxiety				Climate-related anxiety		
Range	*n*	%		Range	*n*	%
1-.1.6	75	67%		1	61	43%
1.8-2.4	28	20%		2	48	34%
2.6-3.2	9	12%		3	29	21%
3.4-4.0	1	1%		4	3	2%

Table 5 describes the range of results of eco-anxiety and climate-related anxiety and juxtaposes them with one another. Most of the respondents answered experiencing eco-anxiety more rarely than once per month (n=75) or once per month (n=28). Likewise, a sizeable proportion of respondents reported experiencing climate-related anxiety less frequently than once per month (n=61) or once per month (n=48). The most notable difference was that climate-related anxiety was experienced once per week (n=29) more than eco-anxiety (n=9). Only 2% felt climate-related anxiety on a daily basis. To conclude, in all ranges, expect 1-1.6, eco-anxiety was experienced more rarely among respondents and climate-related anxiety was experienced more often.

4.3 What issues have caused negative climate emotions

The third research question analyzed what kind of issues have caused difficult (e.g., anxiety, fear, depression, anger, guilt) climate feelings and what were the means and standard deviation of these results. Original question in the survey was what issues have caused negative climate emotions (fear, depression, anxiety, anger, and guilt). The issues chosen for this research were news, politics, weather, documentaries and series, examples of other people's behavior towards climate change, social media, IPCC climate report (2018), lack of interest in climate change in the inner circles, conversation in the inner circles, the content of studies in schools and other facilities and knowledge about climate-related problems such as global warming, melting. The table 6 below illustrates the descriptive analysis that was done on the effects of issues on negative climate emotions. The respondents answered yes if a certain issue such as news or politics had caused sensations of negative climate emotions and the respondents answered no if it not had. The means of the results indicated whether responses were close to 1 (yes) or 0 (no). The closer the mean was to 1, the more people answered that issues had caused negative climate emotions.

TABLE 6 The effect of issues on negative climate emotions

Issues of difficult climate emotions	*n (%)*		mean	Std. deviation
News	yes	118 (66%)	0.66	0.47
	no	60 (34%)		
Politics	yes	84 (47%)	0.47	0.50
	no	94 (53%)		
Weather	yes	87 (49%)	0.49	0.50
	no	91 (51%)		
Documentaries and series	yes	99 (56%)	0.56	0.49
	no	79 (44%)		
Examples of other people's behavior towards climate change	yes	82 (46%)	0.46	0.49
	no	96 (54%)		
Social media	yes	78 (44%)	0.44	0.49
	no	100 (66%)		
IPCC climate report (2018)	yes	37 (21%)	0.21	0.47
	no	141 (79%)		
Lack of interest in climate change in the inner circles	yes	60 (34%)	0.34	0.47
	no	118 (66%)		
Conversations in the inner circles	yes	47 (26%)	0.26	0.44

	no	131 (74%)		
The content of studies in schools and other facilities	yes	41 (23%)	0.23	0.42
	no	137 (77%)		
Knowledge about problems such as global warming, melting of the polar caps, destruction of rain forests, overpopulation, and pandemics	yes	122 (69%)	0.69	0.47
	no	56 (31%)		

The number of respondents was 178. The respondents who reported that knowledge about problems such as global warming, melting of the polar caps, destruction of rain forests, overpopulation, and pandemics news caused difficult climate feelings was the highest with 69%. The news caused 66% of respondents to have had difficult climate emotions. Other major issues that caused difficult emotions were documentaries and series (56%), weather (49%) and politics (47%).

4.4 In what ways are eco-anxiety and climate-related anxiety linked to everyday life choices

The final research question aimed to find out what the role of eco-anxiety was to the changes in everyday life choices of 15–29-year-old Finns. The research question was based on the survey question that asked what has the person done in his or her daily life to mitigate climate change. The means of eco-anxiety and climate-related anxiety were compared between two groups: the ones that had made a given change in their everyday lives and the ones that had not made such change. The higher the mean is in a given category when a respondent answered yes, the more often this emotion was experienced and the more it explained a change in everyday life choices. The independent samples T-test was a logical choice to use when comparing the means of the two groups to find out whether there is a statistically significant difference between the means in two unrelated groups. Table 7 shows the means of each group and the results of the independent samples T-test comparing the means of the two groups.

TABLE 7 Changes in everyday life choices and the link to eco-anxiety and climate-related anxiety

Changes in everyday life choices			Eco-anxiety					Climate-related anxiety			
		n	mean	sd	*t*	*p*	*n*	mean	sd	*t*	*p*
Consumption	yes	75	1.76	.60	5.01	<.001	97	2.10	0.83	6.57	<.001

	no	30	1.22	.45			35	1.29	0.52		
Diet	yes	64	1.83	.61	5.70	<.001	83	2.14	0.80	5.41	<.001
	no	41	1.25	.43			49	1.41	0.67		
Transp ortation	yes	34	1.75	0.57	1.72	0.089	47	2.09	0.86	2.23	0.028
	no	71	1.53	0.62			85	1.75	0.80		
Recycli ng	yes	68	1.67	0.57	2.22	0.125	90	2.01	0.84	2.91	0.004
	no	37	1.48	0.66			42	1.57	0.74		
Living	yes	33	1.82	0.60	2.46	0.015	40	2.13	0.84	2.35	0.020
	no	72	1.51	0.60			92	1.76	0.78		

The results indicate that both eco-anxiety and climate-related anxiety are linked to the changes in consumption and diet. Transportation, recycling and living habits (usage of water, electricity etc.) were not statistically significant. Those respondents who made changes in consumption habits, diet, and housing habits, experienced statistically significantly more eco-anxiety than those who had not made similar changes, and thus eco-anxiety can be found to be related to changes in these everyday life choices. Besides, those who made changes in consumption habits, diet, transport, recycling, and housing habits experienced statistically significantly more climate-related anxiety than those who had not made changes. Both eco-anxiety and climate-related anxiety had statistically significant results. In the case of transportation and recycling habits, the results were more significant for climate-related anxiety.

5 DISCUSSION

Eco-anxiety and climate-related anxiety both play a significant role when describing the effect of negative climate-related emotions on young Finns. The research focused on what eco-anxiety is, how often it is experienced, what issues such as politics and news affect it, how eco-anxiety and climate-related anxiety are linked to the changes in everyday life choices of young Finns. Analysing the results of the survey conducted in 2020, gave more insight into how young Finns experience climate-related emotions, especially eco-anxiety.

This study supported the idea that the five negative emotions (anxiety, fear, depression, anger, and guilt) constituted eco-anxiety. In this sample young Finns reported having experienced less eco-anxiety than climate-related anxiety. Negative climate-related emotions were caused in particular by knowledge of the effects of climate change, news, and documents and series. Eco-anxiety and climate-related anxiety were both linked with changes in everyday life choices, but climate-related anxiety had a stronger link. According to this study, negative climate-related emotions are therefore linked to changes in consumption patterns and other activities that affect the environment.

The first research question sought to explore what emotions constitute eco-anxiety. The results indicated that eco-anxiety as a coherent variable had a strong correlation to the other five negative climate emotions. The correlation was higher than any other correlation between the singular emotions. The conclusion was that other emotions are connected to eco-anxiety; however, it does not indicate that eco-anxiety would explain the role it has on behavior the best. Other emotions such as stress, hate and shame could be considered as well, however they were not considered in this thesis because they were not part of the online survey. People tend to be able to rank higher the emotions they see in others than in themselves, this is usually the case when there are both emotions in oneself and others in comparison. (Pihkala 2020b) Among the different age groups, the group 15–18-year-old had lower means than the other two age groups in both eco-anxiety and climate-related anxiety. This could indicate that age was important factor, however more research is required with bigger sample size. If people have long term unwanted emotions these tend to increase more severe symptoms of anxiety.

The issues such as news and politics illustrated the effect of negative climate-related emotions. These results gave an understanding of what external factors had a role in determining the increased sensations in negative climate-related emotions. These results are important to analyze since concentrating on the root of the problem might give relief in unwanted and negative climate emotions. 69% of the respondents reported that knowledge about problems such as global warming, melting of the polar caps, destruction of rain forests, overpopulation, and pandemics news caused difficult climate feelings. The news caused 66% of respondents to have had difficult climate emotions. Other major issues that caused difficult emotions were documentaries and series (56%), weather (49%)

and politics (47%). The role of media is very crucial in how youth perceive and experiences climate-related emotions. The more aware young Finns are about the increasing problems around the world regarding climate change, the more there might be cases of increased negative climate-related emotions.

There is some evidence that different countries and regions are affected by the direct psychological effects in different ways, however, more research is needed to indicate what these are. If the younger generation is feeling more anxious and trying to ignore the news about climate change and feel that they cannot communicate it to their peers, this is a huge loss in terms of moving forward towards a sustainable community. Literature exists on how to manage and decrease feelings of anxiety regarding climate change and turn the emotions towards a direction that paves the way for positive environmental behavior.

Scholars have different opinions on whether the term eco-anxiety should be a general term for a certain phenomenon that is linked to climate-related emotions or whether other emotions would explain negative climate-related reactions and sensations (Verplanken & Dobromir 2020). The debates whether the terms such as eco-anxiety and climate anxiety should be linked with stronger and long-term anxiety symptoms, increase the confusion around the terms (Pihkala 2020b). In the survey, the respondents who recognized anxiety and other negative emotions in themselves described their emotions as both strong and less strong. This indicated that measuring emotions is complex and hard and thus making the operationalization of emotions difficult. Consumer behavior or the changes in other sectors is one of the trickiest and hardest things to change. Changing habits is a very vague term and thus hard to analyze whether the change has been a bigger or an exceedingly small one. Changing one's daily habits can be a long and slow process.

Eco-anxiety from the corporate environmental management perspective aims to predict how young students who graduate from the degree face problems in the working life. Many graduates may have an idealistic and ambitious aim to influence their future companies to become more sustainable whereas the reality can be much different. A person might face a lot of controversy in working life where he or she is faced with decision that do not support his or her own ideology. Many companies might have internal environment auditors that are forced to do according to the companies' values and attitudes. If the new worker is already anxious about the climate change, they might experience increased sensation of eco-anxiety and climate related anxiety at their future jobs. It is important to address whether it is okey that the new workers experience eco-anxiety or is it something that would work as a disadvantage. On the contrary, if the corporations and their management have empowered sensations regarding climate-related information and implement new sustainability strategies throughout the company the long-term impacts might be positive.

Eco-anxiety is largely generated indirectly through the media. Therefore, climate communication plays a big role in how people feel about climate change. News and other issues about climate change have often focused on reporting the progress of climate change and going through the ever-worsening threats of the

future. Based on the results of this study, it would be important to draw attention to the fact that climate communication would raise hope in the same way as anxiety. This could be accomplished, for example, by highlighting encouraging examples of the actions of individuals and communities. Furthermore, in the context of anxious climate news, concrete ways could be mentioned of how action can be taken to curb climate change. If the person of the communication is already scared or anxious about the threat, a threat seriousness no longer needs to be emphasized, as then additional anxiety will no longer be useful.

5.1 Comparison of the study results with the Sitra 2019 results

When comparing the results with a survey (2020) and with Sitra (2019) the most significant results of all the four-research question are results are listed in table 8 below:

TABLE 8 Comparison of survey (2020) and Sitra (2019)

Question	***Sitra (2019) 15-29-year-old Finns***	***Survey (2020) 15-29-year-old Finns***
How often young Finns experienced negative emotions: climate-related anxiety/anxiety	(n=123) every day (6%) and (25%) once per week	(n=141) every day (2%) and (21%) once per week *Change from 2019: both on average by -4 percentage point*
How often young Finns experienced negative emotions: fear	(n=142) every day (8%) and (21%) once per week	(n=139) every day (1%) and (11%) once per week *Change from 2019: every day -6.4 percentage point and once per week by -10 percentage point*
What issues have caused negative climate emotions (fear, anxiety, depression, guilt and anger): news	(n=98) 56% of respondents reported the news has caused negative climate emotions	(n=118) 66% respondents reported the news has caused negative climate emotion. *Change from 2019: +10 percentage point*
What issues have caused negative climate emotions (fear, anxiety, depression, guilt and	(n=98) 45% of respondents reported the documentaries and series	(n=99) 56% of respondents reported the documentaries and series has caused negative climate emotion

anger): Documentaries and series	has caused negative climate emotion	*Change from 2019: +9 percentage point*
Changes in everyday life choices: Consumption habits	(n=146) 73% of respondents reported that they have changed consumption habits	(Eco-anxiety n=75) 60% and (Climate-related anxiety n=97) 83% of respondents reported that they have changed consumption habits
Changes in everyday life choices: Changed my travelling habits	(n=146) 54% of respondents reported that they have changed travelling habits	(Eco-anxiety n=34) 57% and (Climate-related anxiety n=47) 86% of respondents reported that they have changed travelling habits

Analyzing the results of table 6 indicates that anxiety did not increase; however, it was still relatively high. Fear decreased on average; however, it is hard to compare since many factors could have affected the results. Most often, difficult climate feelings have been caused by (n=98) news (56%) and documentaries and series (45%). In 2020, (n=118) 66% of respondents reported the news has caused negative climate emotion which was 10 percentage point more than in the previous year. Multiple answers were possible to be listed. Changes in everyday life choices (n=146) most people answered that they had changed their consumption habits (73%) and changed travelling habits (54%) in 2019 and 2020 eco-anxiety (n=75) 60% changed their consumption habits and climate-related anxiety (n=97) 83% of respondents reported that they have changed their consumption habits. Regarding the travelling habits, eco-anxiety (n=34) 57% changed their travelling habits and climate-related anxiety (n=47) 86% of respondents reported that they have changed travelling habits.

5.2 Limitations and further research

This study has certain limitations that should be taken into consideration while going through the research results. This research mainly focused on eco-anxiety and climate-related anxiety and did not include the positive emotions (hope, interest, desire) even though they were also surveyed. Many researchers argue that anxiety is not the only emotion linked with climate change that is seen as negative, other emotions are hopelessness, anger, disgust, and despair whereas a sense of worry and concern being significant ones (Clayton & Karazsia 2020). The research did not focus on how to adapt and mitigate these emotions and what long-

lasting negative effect they may cause. Any other of the 25 emotions could have had separate research on them rather than just anxiety.

Regarding reliability and validity of the research results, there is not enough statistical evidence to state that the five chosen emotions were valid enough to constitute eco-anxiety. Other negative climate-related emotions must be included in the future research. The sample of the research was relatively small and thereby it cannot be assumed to reliably reflect the whole population of young Finns and, in addition age and regional distribution was skewed in which case it cannot be assumed to validly represent the whole of Finland and the 15-29-year-old age range. But this does not invalidate the results, it means that it cannot be assumed, for example, that there is just as much of eco-anxiety in the whole Finnish age group as the results indicate. Instead, issues such as news and politics having connections to life choices may well be valid. To conclude, there is not yet a well-established definition of eco-anxiety and this was the first study in which it was formed from the five emotions. It is worth exploring further the construct validity of eco-anxiety.

In the survey the question of how often the emotions were felt, many respondents answered, "I don't know". The scale was 1=Everyday, 2=Once per week, 3=Once per month, 4=More rarely than once per month and 5=I do not know. The "I don't know" responses were not included changing the scale to 1-4 when constructing the eco-anxiety variable thus working as a limitation. The distance scale and range of eco-anxiety was divided into 0.6 intervals, this was based on having 4 equal categories. The distance scale made the interpretation of the results more difficult, however it was since responses were anywhere between 1 to 4 and the results having the 0.6 distance scales enabled a more accurate and similar scaling for the results. The sample size dropped to 113 from 193.

There is a growing research interest towards eco-anxiety, however, the research is behind the public discussion. There is a need for more data and more theoretical discussion about topics related to eco-anxiety especially when quantifying climate-related emotions. It should be important to note that a lot of theories and models overlap, and the psychological impacts (direct/non-direct) are often confused regarding eco-anxiety (Pihkala 2020b). Currently, there is limited information about how the current pandemic has indirectly or directly affected how people perceive eco-anxiety during the crisis and how it affects everyday life choices. The current pandemic could have affected the eco-anxiety, since some people could have been anxious about climate change before, but covid-19 changed their focus from it and gave them a pause.

Topics such as the prevention of emotions such as eco-anxiety, depression, anger, guilt are important to be researched before the problem escalate. The effects and problems that negative climate-related emotions have on mental well-being are not limited to the youth, but other age groups require a lot more attention. There is always a possibility that the translations are incorrect from the actual survey that was conducted in Finnish. The reason why the online survey was conducted in Finnish, was that the original survey that this thesis is based on was

also conducted in Finnish. To avoid problems with translation errors, the language was kept the same.

The way to adapt, mitigate and react to climate-related emotions in a way that would increase positive behavior rather than negative, would be vital to know. More research is needed on what reactions like panic attacks, catastrophizing about climate change and other paralyzing forms of anxiety to the mental well-being of humans. Many eco-anxiety researchers and authorities give practical points for coping strategies. Also developing emotional skills or mental health skills in advance. Further research about stronger and less severe forms of eco-anxiety is required and to explain the concept of eco-anxiety more in-depth.

5.3 Eco-anxiety and covid-19

In his course on environmental emotions and eco-anxiety Pihkala (2020a) discusses covid-19 and eco-anxiety in the current situation with the crisis and how the focus from ecological problems have shifted to the threat of corona. Even though corona anxiety resonates from a physical disease, it has a resemblance to eco-anxiety. Examples of corona can be seen globally, with people stocking certain items such as toilet paper and people having anxiety because there is no cure or lack of knowledge of the disease itself. Other examples are fear of contamination from an invisible source and death anxiety. Media is increasing the fear of corona. Symptoms of both eco-anxiety and corona anxiety are existential crisis, the guilt of contaminating another one, fear and high levels of anxiety.

The existence of covid-19 may have altered human behavior and may have decreased or at least altered the symptoms of eco-anxiety. Currently, there is enough data on how the current pandemic has affected the mental health of humans. It is vital to understand the effects corona has had towards eco-anxiety and how people have changed their lifestyles towards or further form a sustainable one (examples of these could be: decrease in travel, increased waste etc.). Since the current corona crisis is still existing and there is no after corona data, it will present some challenges in terms of finding concrete evidence of how anxious people were during the corona times and why. Due to the lockdown, the world industry is closed, flights are not operating as much, traffic is closed or scarce and people are contributing less towards polluting the world. The pandemic can also provide new opportunities and a chance for the world to rethink how to address climate change as well (Pihkala 2020a).

The current global ecological crisis can increase deep feelings of insecurity, which then again may cause symptoms of anxiety, depression, or defensive behavior. (Adams 2016). Some studies have indicated eco-anxiety to be a branch that affects people's psychological relationships with the environment and how the relationship impacts people's well-being, identity, and health (Legg 2019). Empirical studies show that people do not only experience ecological stress, but also guilt and shame and sometimes even existential questions about mortality and the meaning of life (Jensen 2019). In the future of sustainability, there might

be a combination of sociology, psychology, and existential philosophy (Gillespie 2017). This means that the complexity of both climate change and climate-related emotions requires a deeper and more diverse approach from different study fields. Finland has yet been spared of the worst direct consequences of climate change; however, future consequences cannot be avoided. The psychological reactions evoked by this awareness are the indirect psychological effects of climate change that arise when we people experience unwanted changes in the climate (Doherty 2015).

5.4 Conclusions

This research aimed to find out the current situation regarding eco-anxiety and climate-related anxiety and what the link was on changes in everyday life choices of young Finns. Environmental emotions regarding climate change are a complex topic since a person might feel hope and empowerment to do their part in decreasing their carbon footprint whereas others might get overwhelmed by the constants negative information and begin to ignore any information regarding climate change. This phenomenon thus highly based on factors such as personality, environment, experience, and other demographic factors set a clear problem when trying to predict how people react to certain climate-related information or event. It is important to increase awareness of eco-anxiety and the possible effect of it. Climate emotions build a base for forecasting how people will behave after a positive or negative sensation.

The research concluded that there is a link between negative climate-related emotions and the changes in everyday life choices of young Finns. The results did not increase significantly from the previous research done in 2019 (Sitra 2019), however, the role of eco-anxiety and climate-related anxiety requires more research especially after the current pandemic is over. The role of anxiety is vital to understand since it can promote or discard one positive climate-related behavior. Climate change is one of the greatest threats faced by humanity and it must be addressed before it is too late. The ongoing research brings acutely needed information on the mitigation of climate change and the research data can act as a motivator for people to work together to mitigate climate change. This study was the first to address climate change-related emotions only among 15-to 29-year-old Finnish people.

Though we live in a high consumerism culture and changes are required, change might occur if people collectively unite to fight for change itself. Also, important to point out is that climate change mitigation measurements have negatively affected people's lifestyles and many of them feel that they need to keep quiet and not discuss any climate change-related topics. More time is used to recycle or having a private car is a necessity to get to work. Currently, people work remotely and the stress and the need for private transportation have decreased. Other phenomena indicate that people are fed up with reading about climate change-related topics from the news and do not care or want to hear them from

other sources. Information overflow is one key factor that can increase feelings of anxiety.

Eco-anxiety poses a threat and emerges as a response to the current worldwide climate change crisis. Eco-anxiety is thus an understandable reaction to the state of the world and can motivate people to act on the other hand, it can also lead to loss of ability to function. Whether it is a conflict or the results of some emotions, it is important to find out what can explain when eco-anxiety increases activity, and it increases sensations of repression or paralysis. Eco-anxiety is a broad phenomenon, which is linked with many climate-emotions, psychosocial well-being, and mental states of humans. This research aimed to clarify how eco-anxiety is experienced among the Finnish youth and whether it had a major role in the everyday life choices. The research also helped to understand various forms of issues that cause eco-anxiety and which emotions were intertwined with eco-anxiety. Eco-anxiety as a phenomenon should be considered a crucial problem to tackle and to assess in what ways the emotions and sensations caused by it could be lessened.

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